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On the cover: The canopy-dwelling species *Aschnaoonops silvae,* male, lateral view of carapace, showing the marginal row of setae with tuberculate bases.

PLATNICK ET AL.: THREE NEW GENERA OF OONOPIDS AMNH BULLETIN 373 2013

The Goblin Spider Genera *Prodysderina, Aschnaoonops,* and *Bidysderina* (Araneae, Oonopidae)

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Lily Berniker, and Alexandre B. Bonaldo

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THE GOBLIN SPIDER GENERA *PRODYSDERINA*, *ASCHNAOONOPS*, AND *BIDYSDERINA* (ARANEAE, OONOPIDAE)

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ABSTRACT

A new genus, *Prodysderina*, is established for a group of Neotropical oonopids belonging to the *Dysderina* complex and characterized by having a laterally incised, tuberculate, but unridged sternum, a groove connecting the posterior (but not the anterior) spiracles, and a male embolus with an elongated distal prong and a reduced proximal prong. *Dysderina armata* Simon is transferred to *Prodysderina* and selected as the type species; eight new species are described from Venezuela (*P. megarmata*, *P. rollardae*, *P. janetae*) and Colombia (*P. piedecuesta*, *P. rasgon*, *P. santander*, *P. filandia*, *P. otun*). The genus *Aschnaoonops* contains species that resemble those of *Prodysderina* but have a twisted (and usually basally widened) embolus in males, and a reduced genital atrium in females. That genus occurs in the Andes from Peru north to Colombia, east across northern South America, and north into the West Indies. *Dysderina similis* (Keyserling) and *D. propinqua* (Keyserling) from Colombia, and *D. simla* Chickering from Trinidad, are transferred to *Aschnaoonops*, and females of the two Keyserling species are described for the first time. One new species, *A. silvae*, has been taken by canopy fogging and appears to be widespread in the Amazonian portions of Peru, Ecuador, and Colombia. A total of 36 other new, ground-dwelling, microdistributed species are described: *A. yasuni, A. tiputini, A. cosanga*, *A. ramirezi*, *A. jatun*, and *A. marshalli* from Ecuador, *A. leticia*, *A. orito*, *A. pira*, *A. paez*, *A. huila*, *A. meta*, *A. alban*, *A. chingaza*, *A. pamplona*, *A. pedro*, and *A. marta* from Colombia, *A. chorro*, *A. indio*, *A. tachira*, *A. tariba*, *A. teleferico*, *A. jaji*, *A. merida*, *A. aquada*, *A. masneri*, *A. trujillo*, *A. cristalina*, *A. bocono*, *A. simoni*, and *A. margaretae* from Venezuela, *A. malkini*, *A. caninde*, and *A. belem* from Brazil, *A. villalba* from Puerto Rico, and *A. gorda* from the Virgin Islands. Another new genus, *Bidysderina*, is established for a group of species resembling those above in sternal structure but having differently constructed male palps; five new species (*B. perdido*, *B. bifida*, *B. niarchos, B. wagra*, *B. cayambe*) are described from Napo province, Ecuador.

INTRODUCTION

The goblin spiders detailed below have received relatively little attention in the literature. Only a few species have been described, mostly misplaced in the genus *Dysderina* Simon. However, these animals lack the transverse ridges on the sternum, and the groove connecting the anterior spiracles, that characterize the members of *Dysderina* (see Platnick and Dupérré, 2011a). The distinctiveness of these taxa was first recognized by Dumitrescu and Georgescu (1987), who described one of them as "*Prodysderina spinigera* (Simon)." In attempting to establish the new genus they called *Prodysderina*, Dumitrescu and Georgescu included in it two species described by Simon, but because they failed to designate either of them as the type species, their generic name is a nomen nudum, and is not available. Of the two species, the one detailed first in their paper was "*Prodysderina spinigera,*" but it is just as well that they did not designate it as the type species, because the specimens they studied and illustrated, from Venezuela, do not actually belong to *Dysderina spinigera* Simon, which was originally described from Saint Vincent in the Lesser Antilles. Those Saint Vincent specimens belong to a different genus, *Simonoonops* Harvey (see Platnick and Dupérré, 2011b).

Dumitrescu and Georgescu (1987: pl. 5) nevertheless presented useful illustrations of the species they misidentified as "*Prodysderina spinigera*" as well as of the second species they attempted to assign to their genus, *Dysderina armata* Simon. Even though Dumitrescu and Georgescu's concept of *Dysderina* was erroneously based on a Mediterranean (rather than South American) species, their efforts have provided, for other systematists, the basis for a working concept of *Prodysderina*. In describing the genus as new below, we therefore retain their original generic name, and thereby make it available (with new authors and a new date). As the type species, we choose the one that was correctly identified by Dumitrescu and Georgescu, *D. armata*. That species shows a number of peculiarities, including a laterally incised, tuberculate, but unridged sternum, a groove connecting the posterior (but not the anterior) spiracles, and a male embolus with a greatly elongated distal prong and a much shorter, thinner proximal prong (figs. 61–73). Eight

apparently related new species are described below from Venezuela and Colombia.

The taxon that Dumitrescu and Georgescu misidentified as "*Prodysderina spinigera*" shares the sternal and spiracular features of these *Prodysderina* species but differs in having a basally widened and twisted embolus in males, and a reduced genital atrium in females. Those features are shared with a wide range of species, treated below, that are here considered congeneric with the misidentified Venezuelan species. Their distributions range from Peru northward; the group appears to be most speciose in Colombia and Venezuela, but also extends into northeastern Brazil and even the West Indies.

Ineffective as Dumitrescu and Georgescu's attempt at establishing a new generic name may have been, their paper nevertheless contains careful descriptions and useful illustrations of the morphology of the specimens they studied. The same cannot be said for a more recent effort by Makhan and Ezzatpanah (2011) that also established a new generic name within the Oonopidae, *Aschnaoonops*, based on a single included species, *Aschnaoonops aschnae*, from Suriname. Their "paper" is perhaps best characterized as the taxonomic equivalent of medical malpractice. Those authors provided no differential diagnosis (i.e., no information identifying the putatively most closely related genus or genera, and indicating how their genus can be distinguished from those putative relatives). Their entire generic "description" reads as follows:

> Small brown species. Carapace round. Palp with a C-shaped projection. Underside of the projection strongly sclerotized and upper side soft, open and seed-like inside. Legs with large thick spines and hairs.

Their species "description" merely repeats this information, adding only a measurement of the single known specimen and a few uninformative comments on its coloration and setation. Six extremely low-quality photographs were presented; from the two habitus views, one can determine only that their male specimen is a hard-bodied oonopid. There is a ventral view that is so out of focus that one cannot determine anything at all about the structure of the sternum. A lateral view of a first leg shows that the femur, tibia, and metatarsus are each heavily spined. In concert, these figures suggest that the specimen belongs to the *Dysderina* complex, a placement confirmed by two photographs of the male palp.

Those authors claimed that the "holotype will be deposited in the collection of the University of Suriname, Department of Entomology, Paramaribo, Suriname." As documented by workers on other groups of arthropods who have had the misfortune of having to deal with the "contributions" of Makhan, this claim appears to be science fiction (see the comments by Bolton et al., 2008, who charitably considered a work by Makhan to be "one of the most inadequate papers that has ever been produced in ant taxonomy"). Our repeated requests to examine the holotype of *A. aschnae* have, unsurprisingly, been declined (see Jäch, 2006, for details on Makhan's prior attempts to extort large sums from investigators seeking to examine his types).

Our first inclination was simply to treat *Aschnaoonops* as a nomen dubium, on the grounds that nothing in the published description or illustrations suffices to identify the genus, and that the type is unlikely ever to be available for examination. Although the name clearly refers to some member of the *Dysderina* complex, the generic description could easily apply to members of that complex as disparate as *Paradysderina* Platnick and Dupérré (cf. Platnick and Dupérré, 2011c: figs. 122–125) and *Costarina* Platnick and Dupérré (cf. Platnick and Dupérré, 2012: figs. 80–84). However, males of one of the new species described below from Pará, Brazil, have palps that appear to resemble those of *A. aschnae*, and on that basis we have decided to use the generic name to refer to the group of species that seem to be most closely related to *A. margaretae*, new species (which is the taxon that was misidentified as "*Prodysderina spinigera*" by Dumitrescu and Georgescu, 1987). Although the palpal photographs provided by Makhan and Ezzatpanah do not show a basally widened embolus, the Brazilian specimens, when seen in ventral or retrolateral views, clearly have that type of embolus, even though few traces of the

widened basal portions are apparent in prolateral view (figs. 560–565).

Both genera include some species with anomalous characters. For example, females of six species of *Prodysderina* (*P. armata*, *P. megarmata*, *P. piedecuesta*, *P. rasgon*, *P. filandia*, and *P. otun*) have the dorsal scutum fused to the epigastric scutum (figs. 63, 130); based on the similar male palps of *P. rasgon* and *P. santander*, we predict that the unknown female of the latter species will also show this character, which is not found in females of the other two species of the genus (*P. rollardae* and *P. janetae*). In the males, these scuta appear to have fused only in *P. rasgon* and *P. santander*. Even odder is that the females of *P. piedecuesta* and *P. otun* have the postepigastric scutum fused to the epigastric scutum (figs. 108, 109, 674), a feature not found in any of the other females treated below (although it is ubiquitous in the males). Within this group of species, even some individual specimens are anomalous; one of the females of *P. filandia* has normal female genitalia and a normal right palp, but the left palp bears, at its tip, a reduced male bulb subtending an apparently normal embolus (figs. 140–143). Males of *P. filandia* are unknown, but the embolus on the teratological female (figs. 144, 145) corresponds well to those of the other known species in the genus!

Similarly perplexing diversity occurs within *Aschnaoonops*. Although most species resemble those of *Prodysderina* in having a substantial spinneret scutum and a groove connecting the posterior spiracles, two species (*A pedro*, fig. 380; *A. cristalina*, fig. 508) have seemingly lost the spinneret scutum, and in the females of two species (*A. paez*, figs. 299, 301; *A. cristalina*, fig. 509) the groove that normally connects the posterior spiracles seems to have moved anteriorly and lost its spiracular connections (males of *A. paez* are unknown, but those of *A. cristalina* have only a weak, almost obsolete, groove connecting those spiracles). Some reduction of the spinneret scutum also appears in *A. jaji*; although females of that species have a distinct scutum (fig. 456), males show only a slightly sclerotized rim, bearing the usual elongate setae. All these somatically anomalous species nevertheless have genitalia that seem typical for the genus.

In *Aschnaoonops*, the dorsal and epigastric scuta appear to have fused only in the females of *A. cosanga*, *A. indio*, *A. teleferico*, *A. trujillo*, *A. simla*, and *A. villalba*, and in both sexes of *A. tariba*. The two known males of *A. marta* resemble those of some species of *Paradysderina* in showing asymmetry between the left and right palps; the right palpal bulb is much less "inflated" than the left, and there are also some slight but consistent differences in the shape of the embolus on the right and left palps (figs. 394–399). The single known female of *A. villalba* is also anomalous; the female genitalia are greatly reduced (figs. 588, 589) and the posterior legs have spines on the prolateral sides of tibiae and metatarsi III and IV that have not been detected on any other specimens. However, the right and left posterior legs show different spination patterns, and we suspect that this specimen is teratological.

Some species groups can be recognized within the large genus *Aschnaoonops*. A group of seven Venezuelan species (*A. tachira*, *A. tariba*, *A. teleferico*, *A. merida*, *A. aquada*, *A. masneri*, and *A. trujillo*) are united by having an extremely complex embolus, with multiple processes, accompanied by a triangular projection on the retrolateral surface of the cymbium (as in figs. 430, 441). Interestingly, *A. villalba*, from Puerto Rico, shares these characters (figs. 586, 587) and seems to belong to the *tachira* group. Four species (*A. meta*, *A. similis*, and *A. chingaza* from Colombia, plus *A. belem* from Brazil) share a more apically situated projection on the male palpal cymbium (as in figs. 320, 332). Two species (*A. ramirezi* and *A. marshalli* from Ecuador) share a deep notch on the ventral pedicel margin of females (figs. 254, 270), but that feature has apparently been acquired independently by two members of the *tachira* group (*A. merida* and A. *trujillo*, figs. 468, 497), as well as by one species of *Prodysderina* (*P. otun*, fig. 674).

A third genus, *Bidysderina*, is established below for a small group of species with similar sternal structure, but with very different male genitalia. The palpal bulb is small, not expanded as in more typical members of the *Dysderina* complex, and the embolus is almost entirely bifid (figs. 627,

660), producing the appearance of a separate embolus (presumably corresponding to the distal prong) and conductor (presumably corresponding to the proximal prong; this conductor is sometimes bifid as well). The male endites are distinctively modified, with a complex distal process (fig. 595). The female genitalia still retain an atrium, but it is short and small (figs. 630, 652). The five species assigned to this genus are known only from Napo province, Ecuador; although they have been taken on the ground (e.g., in pitfall traps), they have also been collected by beating foliage and even by canopy fogging, and at elevations as high as 3850 m.

Our methods follow those of Platnick and Dupérré (2009a, 2009b); only differences from the males (beyond the obvious lack of male endite modifications) are mentioned in the descriptions of females. The species are treated geographically, beginning (for *Prodysderina*) with the Venezuelan type species and proceeding westward, and (for *Aschnaoonops*) starting in Peru and proceeding north through the Andes, then east across northern South America, and finally north again into the West Indies. Because *Aschnaoonops* is so speciose, separate keys are provided to the species of Peru and Ecuador, of Colombia, of Venezuela, and of Brazil and the West Indies. Scans were taken from uncoated right male palps, and the images were flipped for consistency. All measurements are in mm. High-resolution, full-color versions of the images, a sortable version of the geocoded locality data, and a distribution map for each species will be available on the goblin spider Planetary Biodiversity Inventory (PBI) project's website (http://research.amnh.org/oonopidae). Users should note that the relatively small published images are merely avatars for the actual image files on the website, which can each be enlarged several times before pixelating.

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INBIO	Instituto Nacional de Biodiversidad, Santo Domingo, Costa Rica
MACN	Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge, MA
MHNG	Muséum d'Histoire Naturelle, Geneva, Switzerland
MNHN	Muséum National d'Histoire Naturelle, Paris, France
MPEG	Museu Paraense Emílio Goeldi, Belém, Brazil
MUSM	Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru
QCAZ	Museum of Invertebrates, Pontificia Universidad Católica, Quito, Ecuador
USNM	National Museum of Natural History, Smithsonian Institution, Washington, DC
ZFMK	Alexander Koenig Zoological Research Museum, Bonn, Germany

Prodysderina, new genus

Prodysderina (nomen nudum): Dumitrescu and Georgescu, 1987: 98.

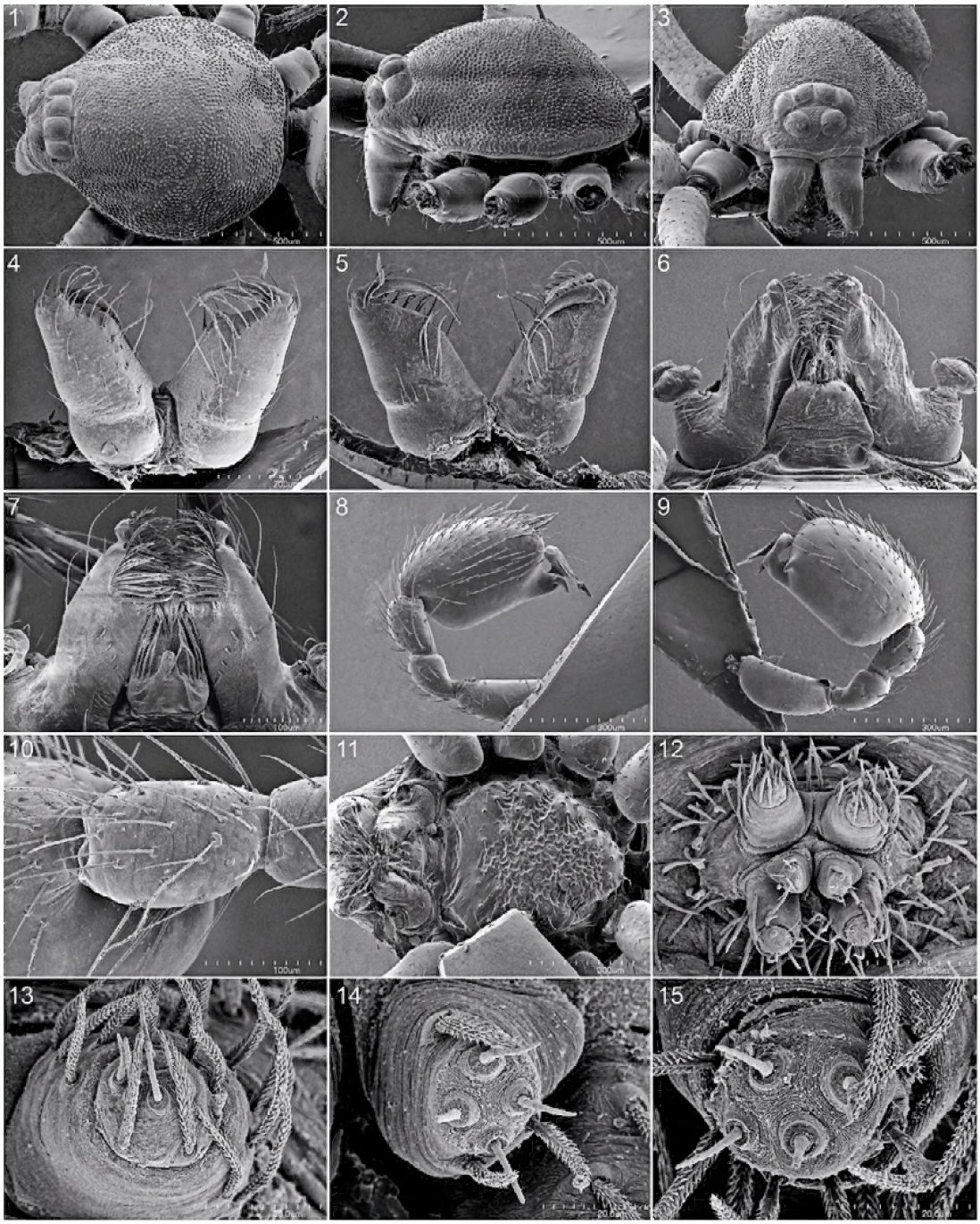
TYPE SPECIES: *Dysderina armata* Simon.

ETYMOLOGY: The generic name refers to the similarities to the genus *Dysderina* Simon, and is feminine in gender.

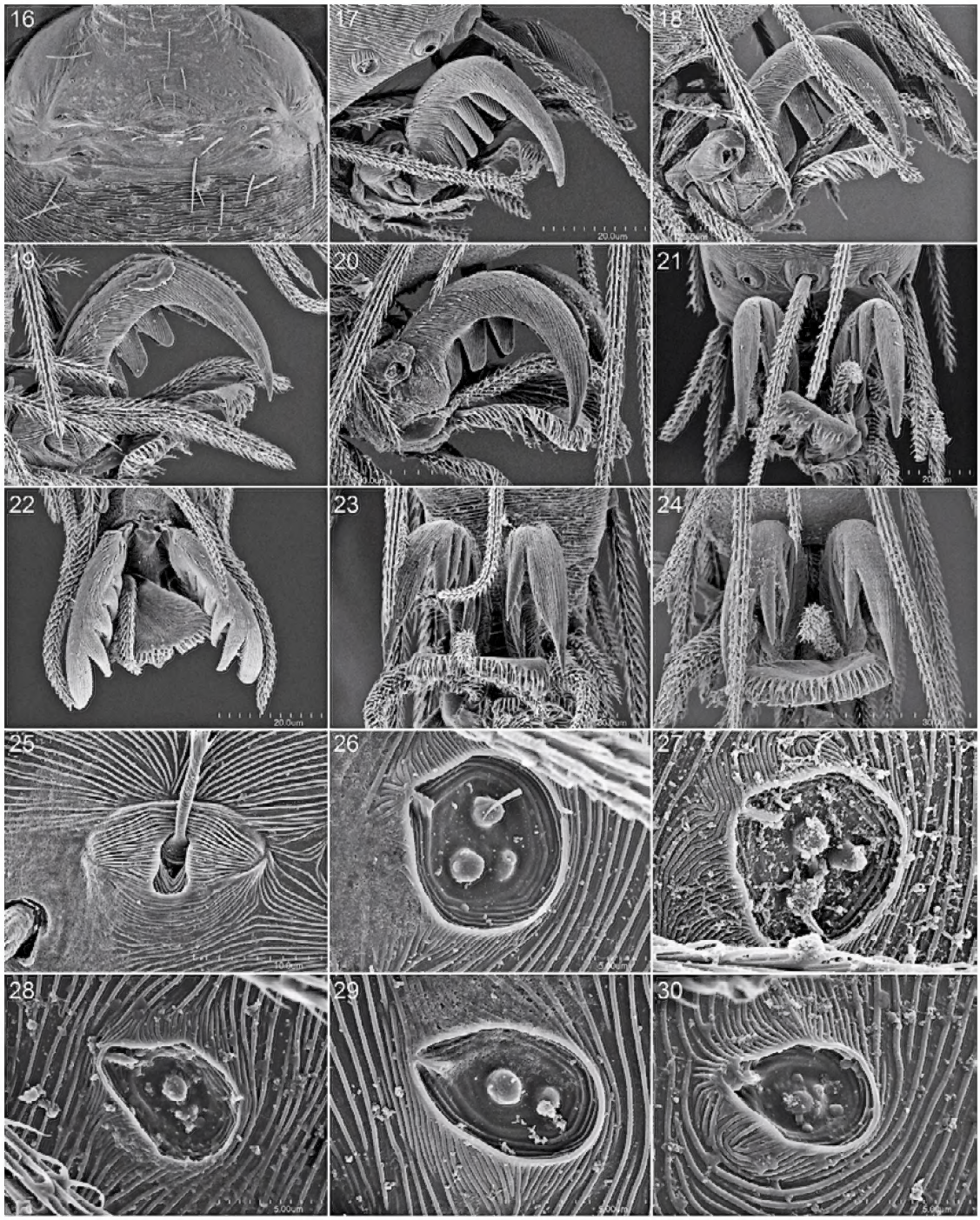
DIAGNOSIS: Members of this genus differ from those of other members of the *Dysderina* complex as follows: from *Dysderina*, *Simonoonops*, and *Costarina* by lacking tranverse ridges on the sternum (figs. 11, 41, 96,

107, 129; cf. Platnick and Dupérré, 2011a: fig. 3, for *Dysderina*, Platnick and Dupérré, 2011b: figs. 6, 79, for *Simonoonops*, and Platnick and Dupérré, 2012: figs. 63, 79, 103 for *Costarina*); from *Neoxyphinus* Birabén by the bifid embolus of males and rounded lateral margins of the genital atrium of females (cf. Abrahim et al., 2012: figs. 49, 50); from *Scaphidysderina* Platnick and Dupérré and *Paradysderina* Platnick and Dupérré by the presence of a spinneret scutum (figs. 62, 97) and a groove connecting the posterior spiracles (figs. 76, 87), and from *Semidysderina* Platnick and Dupérré by the more incised and tuberculate sternum (cf. Platnick and Dupérré, 2011c: figs. 816, 829) and the presence of a dorsal abdominal scutum in females. As detailed below, the genus is probably closest to *Aschnaoonops*, sharing with those species a laterally incised sternum bearing tuberculate setal bases along its lateral and posterior margins. Males can easily be recognized by the greatly elongated distal prong and the reduced proximal prong of the embolus (figs. 68, 125); females can be distinguished by the normal (rather than reduced or absent) genital atrium.

DESCRIPTION: Total length of males 1.7–2.5, of females 1.6–3.1. Carapace, sternum, mouthparts, abdominal scuta, legs orange-brown (except in *P. janetae*, where red-brown), without pattern; abdomen soft portions white, without pattern. **Cephalothorax:** Carapace broadly oval in dorsal view (figs. 1, 31), anteriorly narrowed to 0.49 times its maximum width or less, pars cephalica strongly elevated in lateral view (figs. 2, 32), anterolateral corners with strongly sclerotized, triangular extension, pars thoracica with rounded posterolateral corners, without depressions or radiating rows of pits, posterolateral edge without pits, posterior margin not bulging below posterior rim, posterolateral surface without spikes; surface of elevated portion of pars cephalica granulate, sides granulate; fovea absent, lateral margin straight, rebordered, with blunt denticles; plumose setae near posterior margin of pars thoracica absent; marginal, nonmarginal pars cephalica, pars thoracica setae light, needlelike, scattered. Clypeus margin strongly rebordered, sinuous in front view, vertical in lateral view, high, ALE separated from edge of carapace by their radius or more, median projection present, formed by fused small, triangular chilum (figs. 3, 33); setae light, needlelike. Eyes six, well developed, ALE largest, oval, PME squared, PLE oval; posterior eye row recurved from above, procurved from front; ALE separated by less or more than their radius, ALE-PLE separated by less than ALE radius, PME touching throughout most of their length, PLE-PME separated by less than PME radius. Sternum (figs. 11, 41) wider than long, not fused to carapace, surface without transverse ridges or pits, median concavity and hair tufts absent, with radial furrows between coxae I–II, II–III, III–IV, furrows with rows of small pits, radial furrow opposite coxae III absent, sickle-shaped structures absent, anterior margin with continuous transverse groove, posterior margin not extending posteriorly of coxae IV but with posterior hump, anterior corners excavated, lateral margins with infracoxal grooves bearing anterior, posterior openings, distance between coxae approximately equal, extensions of precoxal triangles absent, lateral margins with bridges to coxae; setae sparse, dark, needlelike, densest laterally, originating from surface, posterior and lateral margins with conspicuous, tuberculate setal bases. Chelicerae slightly divergent, anterior face with slight swelling; usually with one large tooth on promargin, one smaller tooth on retromargin (figs. 4, 5, 34, 35; scanned only in *P. megarmata*); fangs without toothlike projections, directed medially, shape normal, without prominent basal process, tip unmodified; setae dark, needlelike, densest medially; paturon inner margin with scattered setae, distal region, posterior surface unmodified, promargin with row of flattened setae, inner margin unmodified, laminate groove absent. Labium (figs. 6, 36) triangular, not fused to sternum, anterior margin not indented at middle, same as sternum in sclerotization; with six or more setae on anterior margin, subdistal portion with unmodified setae. Endites (figs. 6, 7, 36, 37) same as sternum in sclerotization, distally not excavated, serrula usually absent (scanned only in *P. megarmata*), anterior portion modified in males, posterior portion unmodified; labrum with thumb-shaped projection. Female palp (figs. 38, 39) without claw or spines; tibia with

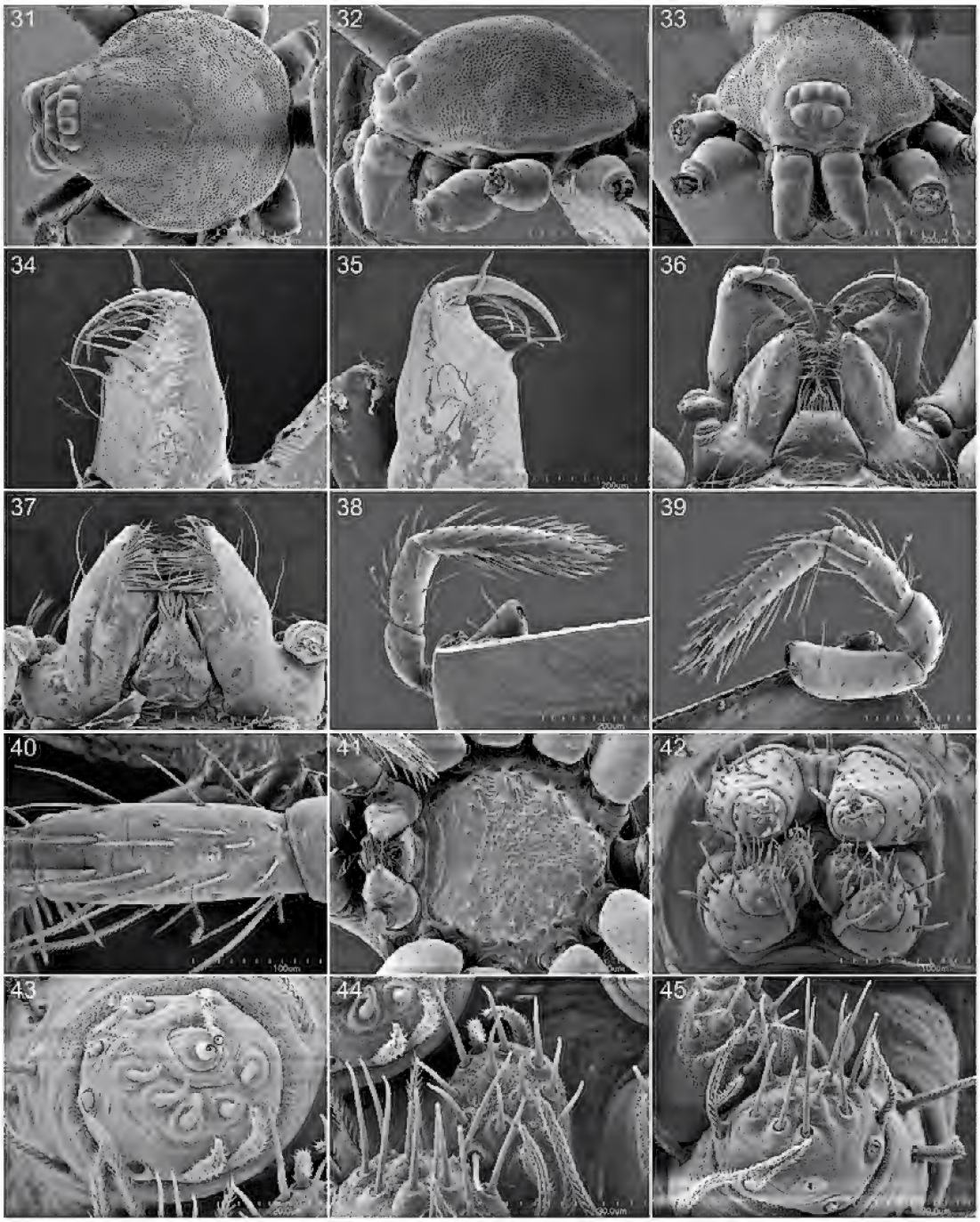


Figs. 1–15. *Prodysderina megarmata,* new species, male. **1.** Carapace, dorsal view. **2.** Same, lateral view. **3.** Same, anterior view. **4.** Chelicerae, anterior view. **5.** Same, posterior view. **6.** Labium and endites, ventral view. **7.** Labrum and endites, dorsal view. **8.** Left palp, prolateral view. **9.** Same, retrolateral view. **10.** Palpal tibia, dorsal view. **11.** Sternum, ventral view. **12.** Spinnerets, distal view. **13.** Anterior lateral spinneret, same. **14.** Posterior median spinneret, same. **15.** Posterior lateral spinneret, same.

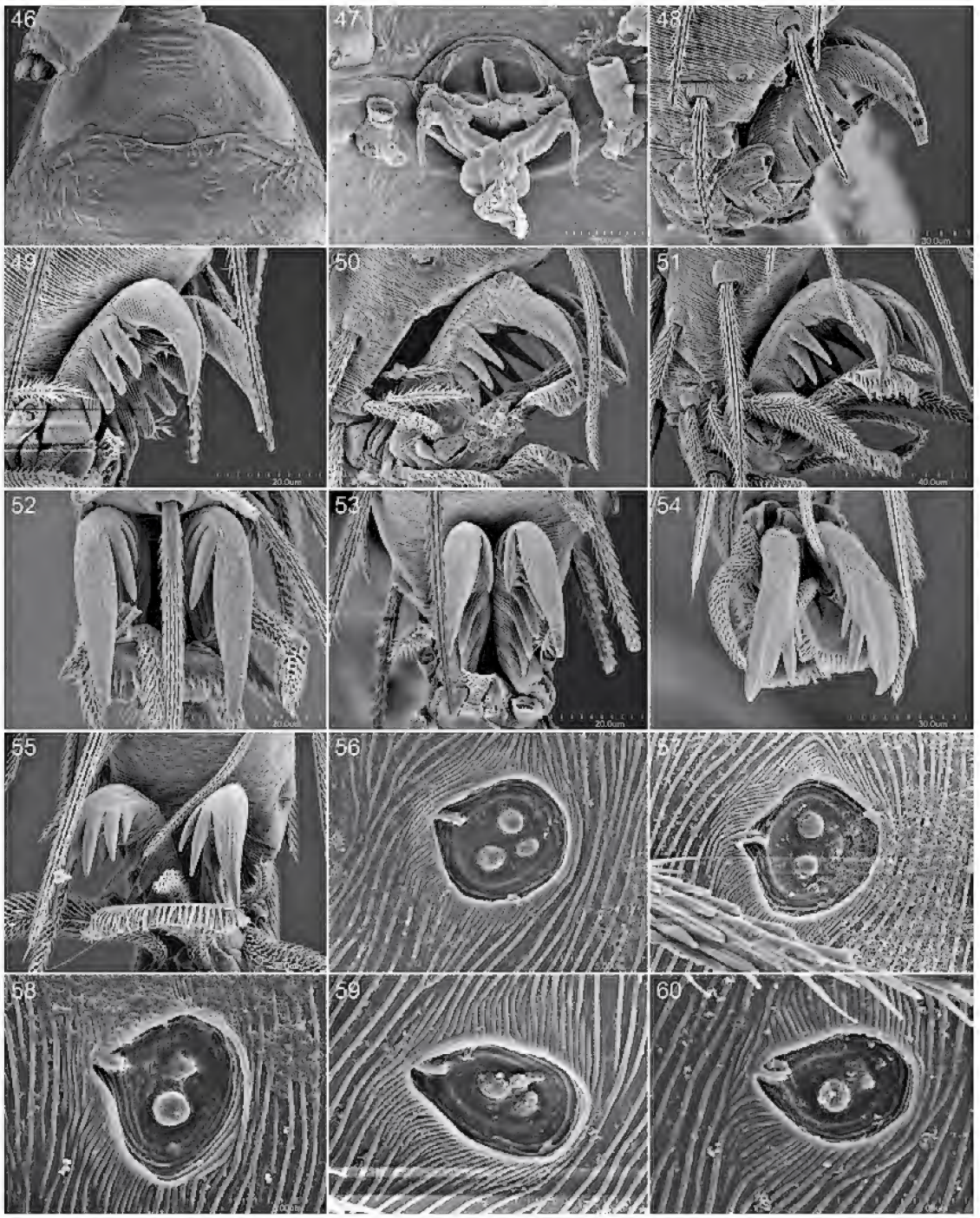


Figs. 16–30. *Prodysderina megarmata,* new species, male. **16.** Epigastric region, ventral view. **17.** Claws of leg I, lateral view. **18.** Same, leg II. **19.** Same, leg III. **20.** Same, leg IV. **21.** Claws of leg I, distal view. **22.** Same, leg II. **23.** Same, leg III. **24.** Same, leg IV. **25.** Trichobothrial base from metatarsus I, dorsal view. **26.** Tarsal organ from leg I, dorsal view. **27.** Same, leg II. **28.** Same, leg III. **29.** Same, leg IV. **30.** Same, palp.

three trichobothria (fig. 40), patella without prolateral row of ridges, tarsus elongate. **Abdomen:** Ovoid, without long posterior extension, rounded posteriorly, interscutal membrane without rows of small sclerotized platelets. Booklung covers large, ovoid, without setae, anterolateral edge unmodified; posterior spiracles connected by groove, groove continued beyond spiracles almost to lateral edge of postepigastric scutum. Pedicel tube medium, ribbed, scutopedicel region unmodified, scutum extending far dorsal of pedicel, plumose hairs, matted setae on anterior ventral abdomen in pedicel area, cuticular outgrowths near pedicel all absent. Dorsal scutum strongly sclerotized, in males covering full length of abdomen, no soft tissue visible from above (smaller in females), sometimes fused to epigastric scutum around midline, middle surface smooth, sides smooth, anterior half without projecting denticles. Epigastric scutum strongly sclerotized, surrounding pedicel, not protruding, small lateral sclerites absent, without lateral joints in females. Postepigastric scutum strongly sclerotized, in males covering nearly full length of abdomen, fused to epigastric scutum (in females smaller, not fused to epigastric scutum, except in *P. piedecusta* and *P. otun*); anterior margin unmodified, with short posteriorly directed lateral apodemes. Spinneret scutum present, incomplete ring, with fringe of long setae; supraanal scutum absent. Abdominal setae dark, needlelike, epigastric area setae not basally thickened; dense patch of setae anterior to spinnerets absent, interscutal membrane with setae. Colulus present, tiny, with pair of setae. Anterior lateral spinnerets bisegmented, basal segment without oblique membranous strip, posterior medians unisegmented, posterior laterals bisegmented (figs. 12, 42); spigots scanned only in *P. megarmata*, anterior laterals with single major ampullate gland spigot and four piriform gland spigots in males (fig. 13), five in females (fig. 43); posterior medians with four spigots in males (three with convex bases, presumably minor ampullate gland spigots, one with concave base, presumably aciniform gland spigot, fig. 14), 11 spigots in females (three with convex bases, eight with concave bases, fig. 44), posterior laterals with four spigots in males (three with convex bases, one with concave base, fig. 15), 10 spigots in females (three with convex bases, seven with concave bases, fig. 45). **Legs:** Femur IV not thickened, same size as femora I–III, patella plus tibia I shorter than carapace, tibia I unmodified, tibia IV specialized hairs on ventral apex, ventral scopula absent, metatarsi I, II mesoapical comb absent, metatarsi III, IV ventral scopula absent. Leg spines present on anterior femora, tibiae, metatarsi; femoral spines strong, tibial and metatarsal spines long, spines absent on posterior legs. Tarsi without inferior claw. Superior claws (scanned only in *P. megarmata*) of males with single row of 2–5 teeth set on inner margin (figs. 17–24), of females with two rows of teeth, outer margin with four teeth, most distal tooth much smaller than others, inner margin with two or three longer teeth (figs. 48–55). Trichobothrial base with numerous parallel ridges (fig. 25). Tarsal organs with three receptors on legs I, II (figs. 26, 27, 56, 57), two on legs III, IV, palps (figs. 28–30, 58–60). **Genitalia:** Male epigastric region with sperm pore (fig. 16) large, narrow, slitlike, situated between anterior and posterior spiracles, rebordered; furrow without Ω-shaped insertions, without specialized setae. Male palp of normal size, not strongly sclerotized, right and left palps symmetrical, proximal segments pale orange, cymbium, bulb yellow; embolus dark, without prolateral excavation; trochanter of normal size, unmodified; femur of normal size, two or more times as long as trochanter, without posteriorly rounded lateral dilation, attaching to patella basally; patella shorter than femur, not enlarged, without prolateral row of ridges, setae unmodified; tibia with three trichobothria (fig. 10); cymbium (figs. 8, 9) ovoid in dorsal view, completely fused with bulb, no seam visible, extending beyond distal tip of bulb, plumose setae, stout setae, distal patch of setae all absent; bulb shorter than cymbium, stout, elongated. Embolus with greatly elongated distal prong, proximal prong reduced. Female genitalia externally with distinct atrium (fig. 46), internally with pair of slight to pronounced protrusions situated near anterior spiracles (presumably serving as muscle attachments), sclerotized anterior



Figs. 31–45. *Prodysderina megarmata,* new species, female. **31.** Carapace, dorsal view. **32.** Same, lateral view. **33.** Same, anterior view. **34.** Chelicera, anterior view. **35.** Same, posterior view. **36.** Labium and endites, ventral view. **37.** Labrum and endites, dorsal view. **38.** Palp, prolateral view. **39.** Same, retrolateral view. **40.** Palpal tibia, dorsal view. **41.** Sternum, ventral view. **42.** Spinnerets, distal view. **43.** Anterior lateral spinneret, same. **44.** Posterior median spinneret, same. **45.** Posterior lateral spinneret, same.



Figs. 46–60. *Prodysderina megarmata,* new species, female. **46.** Epigastric region, ventral view. **47.** Genitalia, dorsal view. **48.** Claws of leg I, lateral view. **49.** Same, leg II. **50.** Same, leg III. **51.** Same, leg IV. **52.** Claws of leg I, distal view. **53.** Same, leg II. **54.** Same, leg III. **55.** Same, leg IV. **56.** Tarsal organ from leg I, dorsal view. **57.** Same, leg II. **58.** Same, leg III. **59.** Same, leg IV. **60.** Same, palp.

genitalic process, and membranous posterior receptaculum (fig. 47).

DISTRIBUTION: Known from Venezuela and Colombia.

KEY TO SPECIES OF *PRODYSDERINA*

1. Males (unknown in *P. filandia* and *P. otun*) 2
– Females (unknown in *P. santander*). 8
2. Distal prong of embolus extending much farther prolaterally than base of embolus (figs. 68, 81, 114, 125, 135). 3
– Distal prong of embolus not extending so far (figs. 92, 103) 7
3. Distal prong of embolus relatively narrow (figs. 68, 81) 4
– Distal prong of embolus wider (figs. 114, 125, 135) 5
4. Palpal bulb relatively large (fig. 79) . . . . . *megarmata*
– Palpal bulb relatively small (fig. 66) . . . *armata*
5. Distal prong of embolus sharply bent (fig. 125). . . . . *rasgon*
– Distal prong of embolus otherwise (figs. 114, 135) 6
6. Base of distal prong much wider than tip (fig. 136). . . . . *santander*
– Base of distal prong not much wider than tip (fig. 115). . . . . *piedecusta*
7. Distal prong of embolus relatively wide at base (fig. 92). . . . . *rollardae*
– Distal prong of embolus relatively narrow at base (fig. 103) . . . . . *janetae*
8. Postepigastric scutum fused to epigastric scutum (figs. 108, 674). 9
– Postepigastric scutum not fused to epigastric scutum 10
9. Genital atrium semicircular (fig. 109); pedicel margin not invaginated (fig. 108) . . . . *piedecusta*
– Genital atrium oval (fig. 675); pedicel margin ventrally invaginated (fig. 674) . . . . . *otun*
10. Aside from tuberculate setal bases, sternum surface smooth (as in fig. 118) . . . . . *rasgon*
– Sternum surface finely or coarsely reticulate 11
11. Anterior genitalic process relatively long (figs. 95, 106) 12
– Anterior genitalic process shorter 13
12. Sclerite connecting apodemes relatively straight (fig. 95) . . . . . *rollardae*
– Sclerite connecting apodemes more sinuous (fig. 106). . . . . *janetae*
13. Conspicuous sclerotization obvious at level of anterior edge of postepigastric scutum (figs. 73, 84) 14
– No conspicuous sclerotization at level of anterior edge of postepigastric scutum (fig. 147) . . . . . *filandia*
14. Conspicuous sclerotization large, rounded (fig. 84) . . . . . *megarmata*
– Conspicuous sclerotization smaller (fig. 73) . . . . . *armata*

Prodysderina armata (Simon), new combination
Figures 61–73

Dysderina armata Simon, 1893b: 441, pl. 9, fig. 9 (male holotype from Caracas, Distrito Capital, Venezuela, in MNHN, examined).

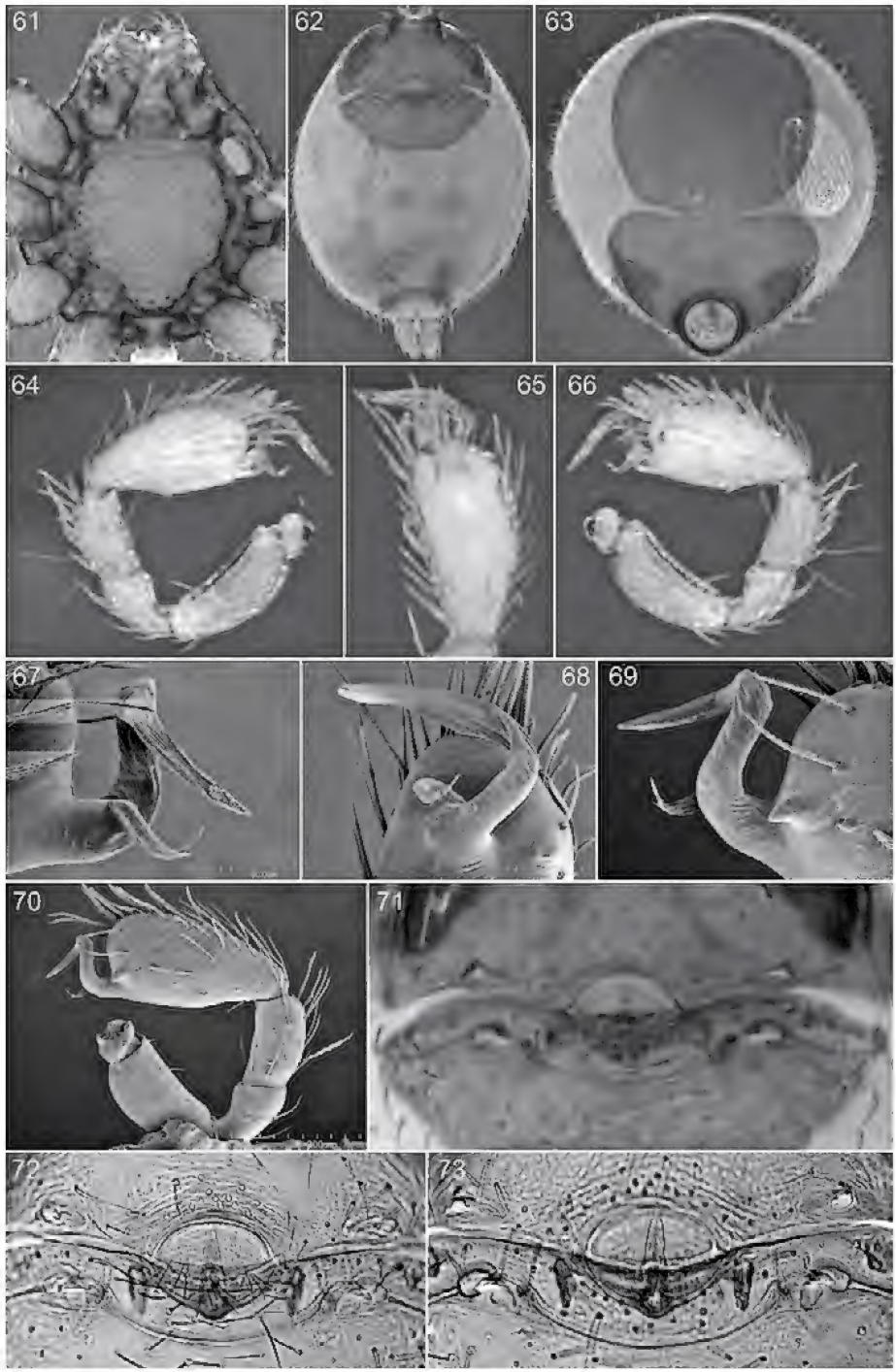
Prodysderina armata: Dumitrescu and Georgescu, 1987: 100, pl. 6 (transferred male to generic nomen nudum, described female).

DIAGNOSIS: Males resemble those of *P. megarmata* but have a much smaller palpal bulb (figs. 64–66); females lack the enlarged, sclerotized anterior portion of the posterior receptaculum found in that species (figs. 71–73).

MALE (PBI_OON 981, figs. 61, 64–70): Total length 1.76. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior portion of endites sharply pointed. Dorsal scutum not fused to epigastric scutum. Postepigastric scutum almost semicircular. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p, II v2-2-0. Distal prong of embolus about four times as long as proximal prong, sharply bent at about 1/4 its length.

FEMALE (PBI_OON 981, figs. 62, 63, 71–73): Total length 2.14. Sternum with additional tuberculate setal bases near anterior sternal groove. Female palp spines absent. Dorsal scutum covering 1/2 to 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum widely hexagonal, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-2-0. Posterior margin of genitalic atrium triangular.

MATERIAL EXAMINED: **Venezuela:** *Aragua:* Estación Biológica Rancho Grande, Parque Nacional Henri Pittier, 10°21′15″N, 67°41′11″W, May 12, 1998, montane forest litter, elev. 1250 m (R. Anderson, AMNH



Figs. 61–73. *Prodysderina armata* (Simon), male (61, 64–70) and female (62, 63, 71–73). **61.** Sternum and mouthparts, ventral view. **62.** Abdomen, ventral view. **63.** Same, anterior view. **64.** Left palp, prolateral view. **65.** Same, ventral view. **66, 70.** Same, retrolateral view. **67.** Left embolus, prolateral view. **68.** Same, ventral view. **69.** Same, retrolateral view. **71, 72.** Genitalia, ventral view. **73.** Same, dorsal view.

PBI_OON 982), 1♀, road to Pico Guacamaya, 10°21′37″N, 67°40′25″W, May 14, 1998, cloud forest litter, elev. 1550 m (R. Anderson, AMNH PBI_OON 981), 1♂, 1♀. *Distrito Capital:* Caracas (E. Simon, MNHN 5761, PBI_OON 5447), 1♂ (holotype). *Mérida:* Laguna Negra, Parque Nacional Sierra Nevada, 8°47′14″N, 70°48′31″W, May 23, 1998, elfin forest litter, elev. 3330 m (R. Anderson, AMNH PBI_OON 43638), 1♀.

DISTRIBUTION: Apparently widespread in northern Venezuela (Mérida, Aragua, Distrito Capital).

Prodysderina megarmata, new species
Figures 1–60, 74–84

TYPE: Male holotype taken in cloud forest litter at an elevation of 1300 m at a site 17 km S of Las Tejerías and 12 km N of Tiara, Aragua, Venezuela (Aug. 8, 1987; S., J. Peck), deposited in AMNH (PBI_OON 20).

ETYMOLOGY: The specific name refers to the male palpal bulb, which resembles that of *P. armata* but is much larger.

DIAGNOSIS: Males resemble those of *P. armata* but have a much larger palpal bulb (figs. 77–79); females have a distinctively enlarged, rounded, sclerotized anterior portion of the posterior receptaculum (figs. 83, 84).

MALE (PBI_OON 20, figs. 1–30, 74, 77–82): Total length 1.83. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior portion of endites sharply pointed. Dorsal scutum not fused to epigastric scutum. Postepigastric scutum almost semicircular. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v3-2-0. Embolus with distal prong about four times as long as proximal prong, sharply bent at about 1/4 its length.

FEMALE (PBI_OON 38040, figs. 31–60, 75, 76, 83, 84): Total length 2.13. Sternum with additional tuberculate setal bases near anterior groove. Dorsal scutum covering 1/2 to 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum widely hexagonal, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-2-0. Posterior margin of genital atrium with rounded posterior extension representing sclerotized portion of posterior receptaculum.

OTHER MATERIAL EXAMINED: **Venezuela:** *Aragua:* road to Choroní, 19 km N Maracay, Apr. 2, 1992, stream litter, elev. 4300 ft (L. Herman, AMNH PBI_OON 979), 1♂; Rancho Grande, 15 mi N Maracay, Feb. 19–27, 1971, Berlese, forest litter, elev. 1000–1400 m (S., J. Peck, FMNH PBI_OON 980), 1♀; Rancho Grande, 15 km N Maracay, Feb. 9–27, 1971, Berlese, forest litter (S. Peck, AMNH PBI_OON 38040), 3♀; Tiara, ca. Cerro Niguel, Apr. 27, 1995, elev. 1400 m (J. Lattke, CAS PBI_OON 2539), 1♀. *Miranda:* 35 km N Altagracia, Parque Nacional Guatopo, Agua Blanca, May 31, 1987, ravine litter, elev. 400 m (S., J. Peck, AMNH PBI_OON 38042), 1♂.

DISTRIBUTION: Apparently widespread in northern Venezuela (from Mérida to Miranda).

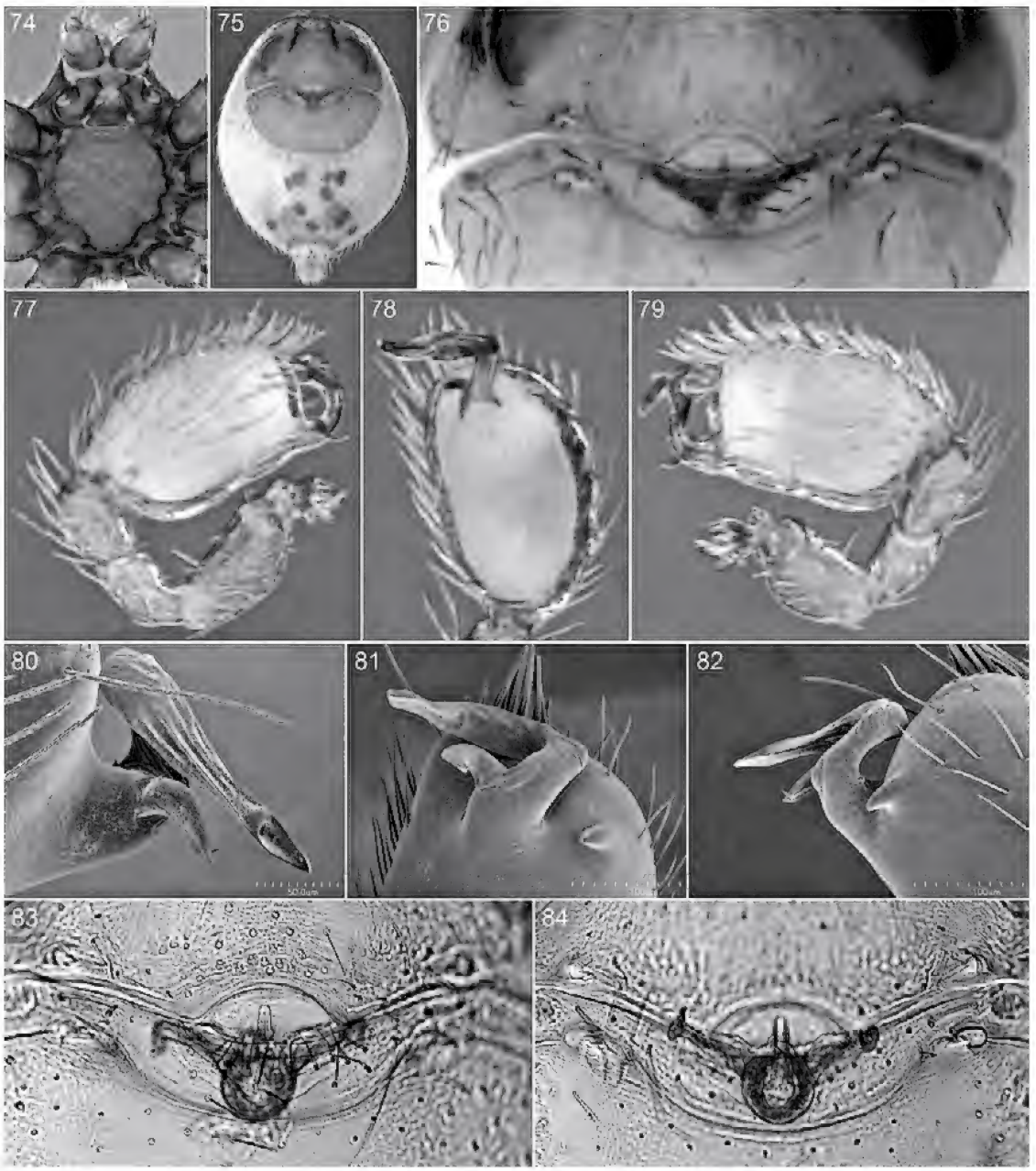
Prodysderina rollardae, new species
Figures 85–95

TYPE: Male holotype from cloud forest litter taken at an elevation of 1450 m on the road to Pico Guacamaya, Estación Biológica Rancho Grande, Parque Nacional Henri Pittier, 10°21′30″N, 67°40′30″W, Aragua, Venezuela (May 14, 1998; R. Anderson), deposited in AMNH (PBI_OON 983).

ETYMOLOGY: The specific name is a patronym in honor of Christine Rollard (MNHN), in recognition of her assistance, with the Simon collection in Paris, to all the PBI participants.

DIAGNOSIS: Males resemble those of *P. janetae* but have a wider distal prong on the embolus (figs. 88–93); females have the sclerite connecting the apodemes relatively straight (figs. 87, 94, 95).

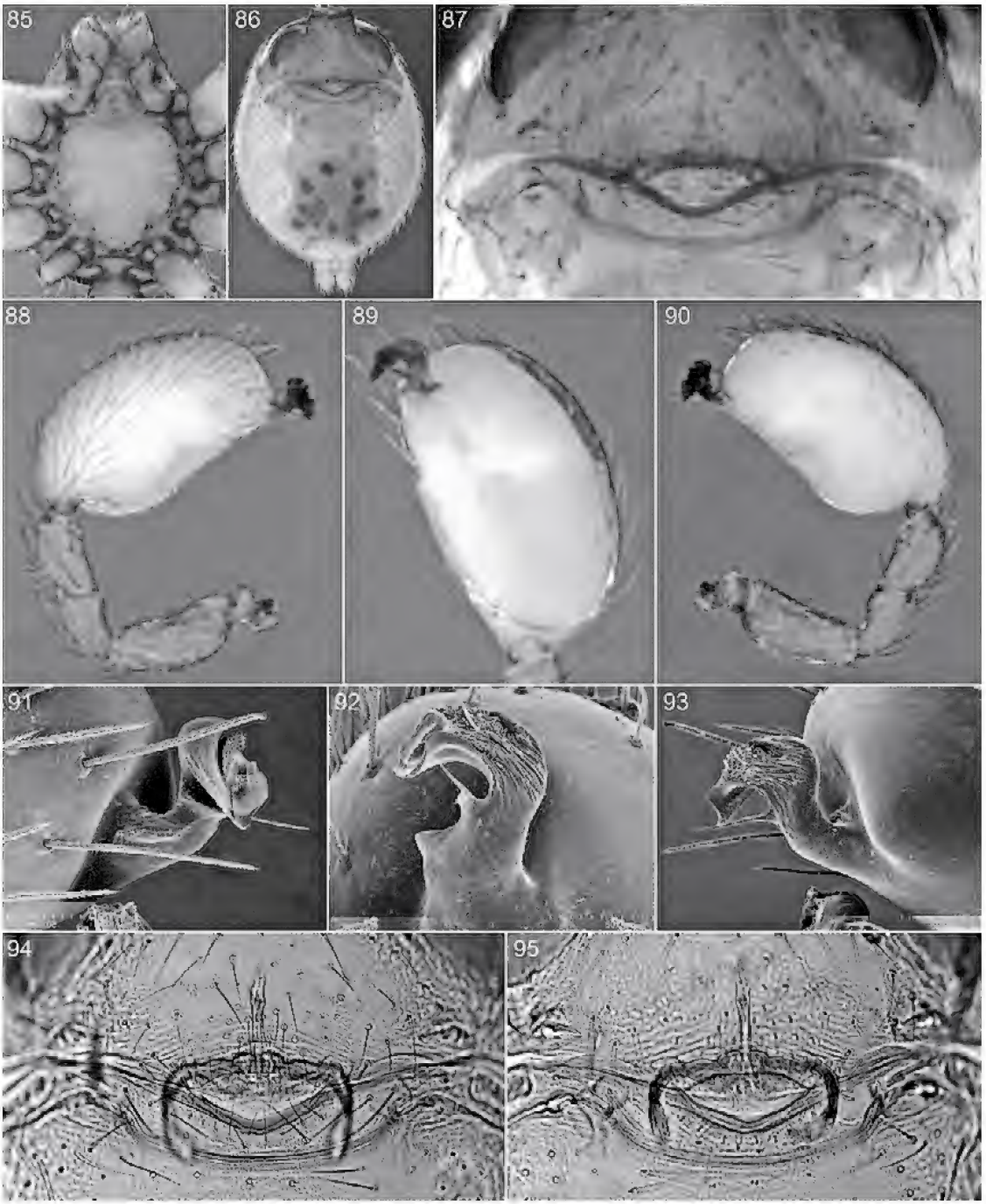
MALE (PBI_OON 983, figs. 85, 88–93): Total length 1.82. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior tip of endites with small, dark, triangular process. Dorsal scutum not fused to epigastric scutum. Postepigastric scutum long, almost rectangular. Leg spination:



Figs. 74–84. *Prodysderina megarmata,* new species, male (74, 77–82) and female (75, 76, 83, 84). **74.** Sternum and mouthparts, ventral view. **75.** Abdomen, ventral view. **76, 83.** Genitalia, ventral view. **77.** Left palp, prolateral view. **78.** Same, ventral view. **79.** Same, retrolateral view. **80.** Left embolus, prolateral view. **81.** Same, ventral view. **82.** Same, retrolateral view. **84.** Genitalia, dorsal view.

femora: I p0-0-2, r1-1-1; II p0-0-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v3-2-0. Embolus with distal prong relatively wide, tip ledgelike, proximal prong short, sharp.

FEMALE (PBI_OON 984, figs. 86, 87, 94, 95): Total length 2.01. Dorsal scutum covering 1/2 to 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum widely hexagonal, covering about 1/2



Figs. 85–95. *Prodysderina rollardae*, new species, male (85, 88–93) and female (86, 87, 94, 95). **85.** Sternum and mouthparts, ventral view. **86.** Abdomen, ventral view. **87, 94.** Genitalia, ventral view. **88.** Left palp, prolateral view. **89.** Same, ventral view. **90.** Same, retrolateral view. **91.** Left embolus, prolateral view. **92.** Same, ventral view. **93.** Same, retrolateral view. **95.** Genitalia, dorsal view.

of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-1r-1p. Anterior genitalic process very long, narrow, slightly expanded at about 3/4 its length.

OTHER MATERIAL EXAMINED: **Venezuela:** *Aragua:* Estación Biológica Rancho Grande, Parque Nacional Henri Pittier, 10°20′42″N, 67°41′09″W, May 12, 1998, montane forest litter, elev. 1150 m (R. Anderson, AMNH PBI_OON 984), 1♀; Rancho Grande, Dec. 20, 1954 (A. Nadler, AMNH PBI_OON 51), 1♀. *Monagas:* Caripe, Cueva Guacharo, July 20–31, 1987, malaise, flight intercept traps, forest over coffee, elev. 700–750 m (S., J. Peck, AMNH PBI_OON 134, 985, 37877), 5♀.

DISTRIBUTION: Northeastern Venezuela (Aragua, Monagas).

Prodysderina janetae, new species
Figures 96–106

TYPE: Male holotype from cloud forest litter taken at an elevation of 1850 m at a site 6.5 km SE Sanare in the Parque Nacional Yacambú, 9°41′51″N, 69°38′57″W, Lara, Venezuela (May 17, 1998; R. Anderson), deposited in AMNH (PBI_OON 987).

ETYMOLOGY: The specific name is a patronym in honor of Janet Beccaloni (BMNH), in recognition of her assistance, with the Simon and Keyserling collections in London, to all the PBI participants.

DIAGNOSIS: Males resemble those of *P. rollardae* but have a narrower, more angular distal prong on the embolus (figs. 99–104); females have a more sinuous sclerite connecting the apodemes (figs. 98, 105, 106).

MALE (PBI_OON 987, figs. 96, 99–104): Total length 2.12. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Distal tip of endites with small, triangular, anteriorly directed process. Dorsal scutum not fused to epigastric scutum. Postepigastric scutum long, almost rectangular. Leg spination: femur I p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v3-0-2. Distal prong of embolus with two sharp bends, distally narrowed, proximal prong extremely narrow.

FEMALE (PBI_OON 992, figs. 97, 98, 105, 106): Total length 2.40. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum widely hexagonal, covering about 1/2 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process very long, very narrow throughout its length.

OTHER MATERIAL EXAMINED: **Venezuela:** *Lara:* 10.4 km SE Sanare, Parque Nacional Yacambú, 9°41′44″N, 69°36′37″W, May 16, 1998, cloud forest litter, elev. 1800 m (R. Anderson, AMNH PBI_OON 992), 2♂, 7♀; 10.5 km SE Sanare, Parque Nacional Yacambú, 9°41′52″N, 69°37′03″W, June 1, 1998, cloud forest litter, elev. 1760 m (R. Anderson, AMNH PBI_OON 991), 1♂; 14.2 km SE Sanare, Parque Nacional Yacambú, 9°41′45″N, 69°36′48″W, May 17–18, 1998, cloud forest litter, elev. 1650 m (R. Anderson, AMNH PBI_OON 988, 990), 3♂, 1♀; 14.4 km SE Sanare, Parque Nacional Yacambú, 9°42′22″N, 69°34′42″W, May 17, 1998, cloud forest litter, elev. 1500 m (R. Anderson, AMNH PBI_OON 989), 1♂, 4♀, same, June 2, 1998 (R. Anderson, AMNH PBI_OON 986), 1♀; ecological trail, Parque Nacional Yacambú, 9°42.5′N, 69°35′W, Dec. 15–16, 2001, elev. 1550 m (B. Huber, A. Pérez, O. Villareal, B. Struffler, A. Giupponi, ZFMK 1493, PBI_OON 993), 1♂, 1♀. *Trujillo:* old road between Boconó and Trujillo, July 9–28, 1986, elev. 2500 m (B. Gill, CNC PBI_OON 38130), 2♂, 1♀.

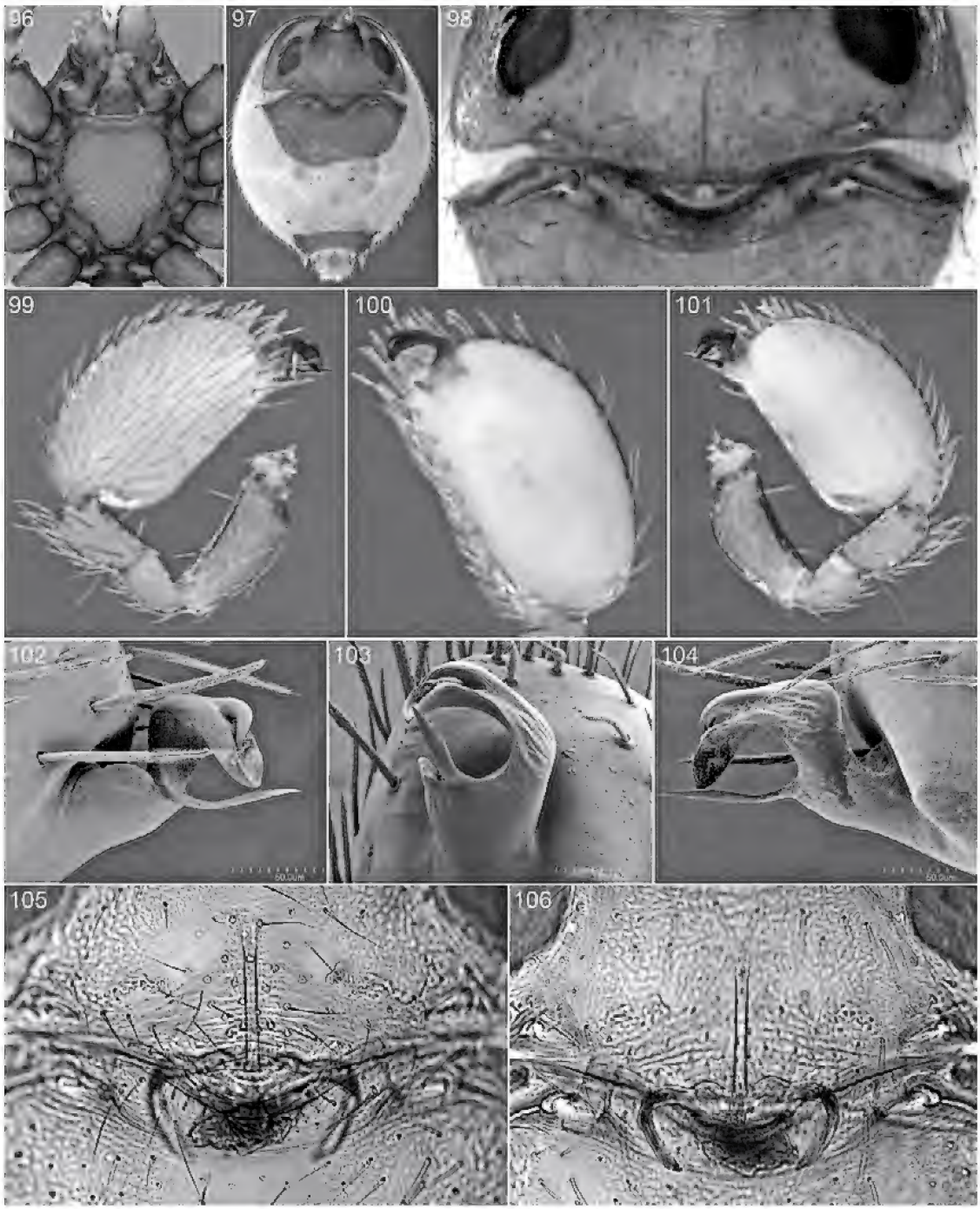
DISTRIBUTION: Western Venezuela (Trujillo, Lara).

Prodysderina piedecuesta, new species
Figures 107–117

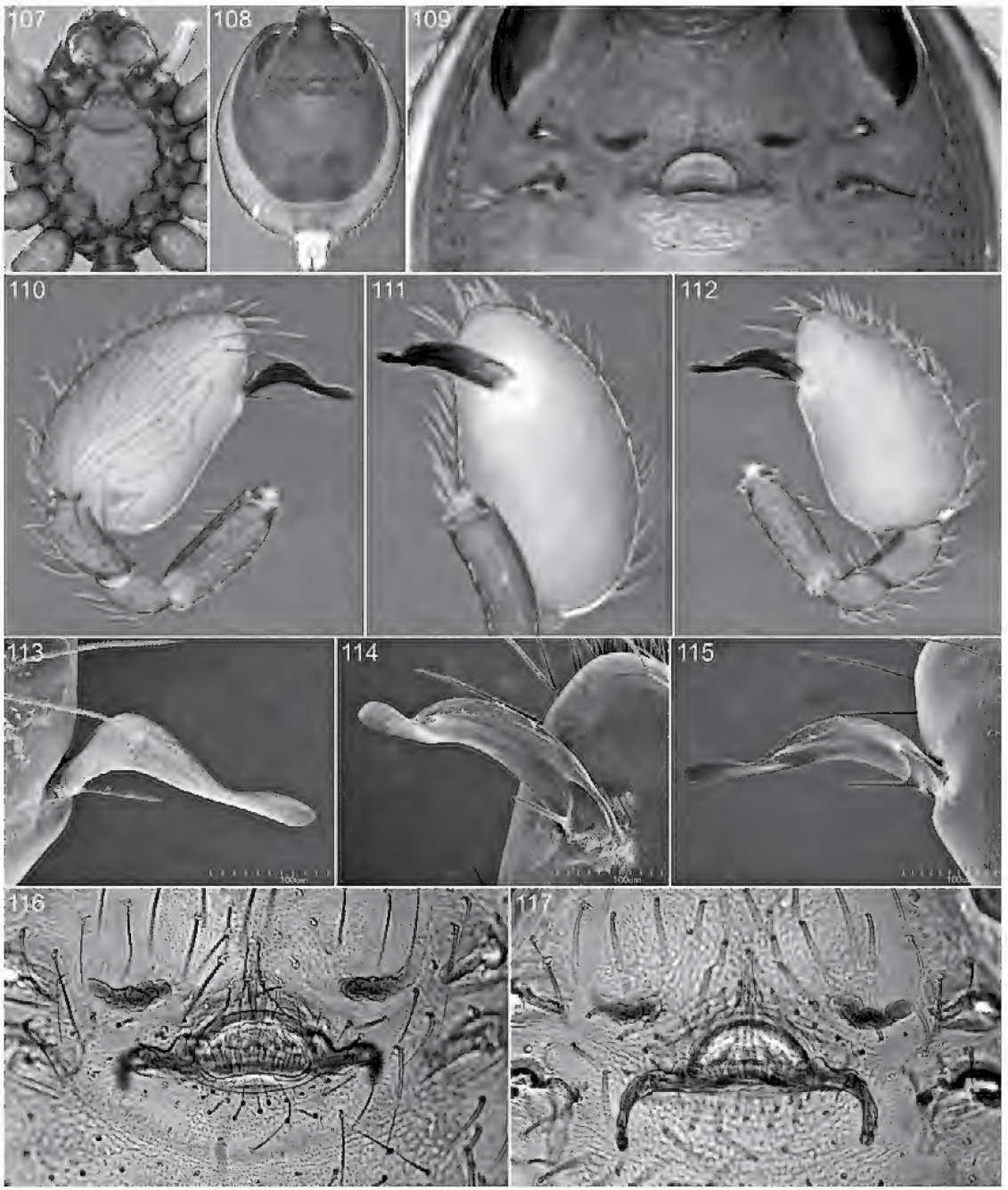
TYPES: Male holotype, female allotype, and female paratype taken in a Winkler trap in a high Andean forest at an elevation of 2150 m at the Estación Experimental y Demostrativa El Rasgón, Piedecuesta, 7°03′N, 72°57′W, Santander, Colombia (Sept. 21–23, 2004; I Quintero, E. González), deposited in IAVH (PBI_OON 994).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the long, distally sinuous distal prong on the embolus (figs. 110–115); females resemble



Figs. 96–106. *Prodysderina janetae*, new species, male (96, 99–104) and female (97, 98, 105, 106). **96.** Sternum and mouthparts, ventral view. **97.** Abdomen, ventral view. **98, 105.** Genitalia, ventral view. **99.** Left palp, prolateral view. **100.** Same, ventral view. **101.** Same, retrolateral view. **102.** Left embolus, prolateral view. **103.** Same, ventral view. **104.** Same, retrolateral view. **106.** Genitalia, dorsal view.



Figs. 107–117. *Prodysderina piedecuesta*, new species, male (107, 110–115) and female (108, 109, 116, 117). **107.** Sternum and mouthparts, ventral view. **108.** Abdomen, ventral view. **109, 116.** Genitalia, ventral view. **110.** Left palp, prolateral view. **111.** Same, ventral view. **112.** Same, retrolateral view. **113.** Left embolus, prolateral view. **114.** Same, ventral view. **115.** Same, retrolateral view. **117.** Genitalia, dorsal view.

those of *P. otun* in having the postepigastric scutum completely fused to the epigastric scutum (fig. 108), but have a semicircular, rather than oval, genital atrium (fig. 109).

MALE (PBI_OON 994, figs. 107, 110–115): Total length 2.50. ALE separated by their radius to diameter. Sternum surface finely reticulate, microsculpture everywhere but front. Distal tip of endites forming sharp, triangular projection. Dorsal scutum not fused to epigastric scutum. Postepigastric scutum long, almost rectangular. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r1-1-0; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-0-2. Embolus with distal prong sinuous, about three times as long as narrow proximal prong.

FEMALE (PBI_OON 994, figs. 108, 109, 116, 117): Total length 2.90. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, fused to epigastric scutum. Postepigastric scutum long, semicircular, extending to nearly full length of abdomen, fused to epigastric scutum. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-1r-1p. Anterior genitalic process much wider posteriorly than anteriorly.

OTHER MATERIAL EXAMINED: **Colombia:** *Santander:* Estación Experimental y Demostrativa El Rasgón, Piedecuesta, 7°03′N, 72°57′W, Sept. 21–23, 2004, dung trap, high Andean forest, elev. 2150 m (I Quintero, E. González, IAVH PBI_OON 995), 1♂, same, Winkler trap (IAVH 108133, 108140, PBI_OON 996, 997), 1♂, 1♀.

DISTRIBUTION: Northern Colombia (Santander).

Prodysderina rasgon, new species
Figures 118–128

TYPE: Male holotype taken in a Winkler trap in an Andean forest at an elevation of 2150 m in the Estación Experimental y Demostrativa El Rasgón, Piedecuesta, 7°03′N, 72°57′W, Santander, Colombia (Sept. 21–23, 2004; I. Quintero, E. González), deposited in IAVH (108133, PBI_OON 922).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males have a retrolaterally expanded embolar base and a transverse ridge at about half the embolar length (figs. 121–126); females have a straight anterior margin on the genitalic atrium (figs. 120, 127, 128).

MALE (PBI_OON 922, figs. 118, 121–126): Total length 2.30. ALE separated by their radius to diameter. Sternum surface smooth, microsculpture absent. Anterior portion of endites sharply pointed. Dorsal scutum fused to epigastric scutum. Postepigastric scutum long, semicircular. Leg spination: femora: I p0-0-2, r1-1-0; II p0-0-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-2-0. Embolus with distal prong folded, proximal prong short, sharply pointed.

FEMALE (PBI_OON 923, figs. 119, 120, 127, 128): Total length 2.73. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/2 of abdomen. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-2-0. Rounded lobe present at base of long, distally expanded anterior process.

OTHER MATERIAL EXAMINED: One female taken with the male (IAVH PBI_OON 923).

DISTRIBUTION: Northern Colombia (Santander).

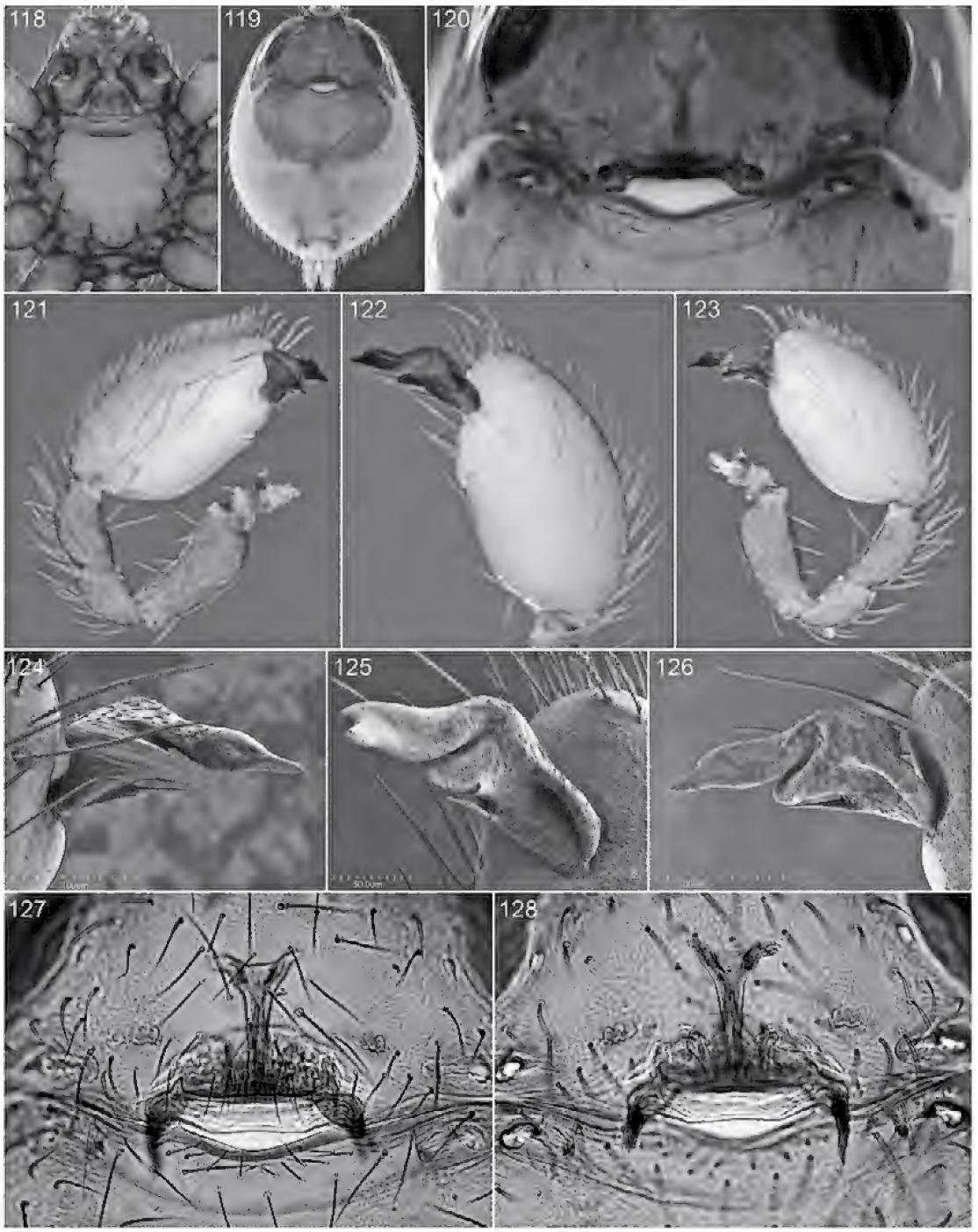
Prodysderina santander, new species
Figures 129, 131–136

TYPE: Male holotype taken in a Winkler trap in an Andean forest at an elevation of 2150 m in the Estación Experimental y Demostrativa El Rasgón, Piedecuesta, 7°03′N, 72°57′W, Santander, Colombia (Sept. 21–23, 2004; I. Quintero, E. González), deposited in IAVH (108133, PBI_OON 924).

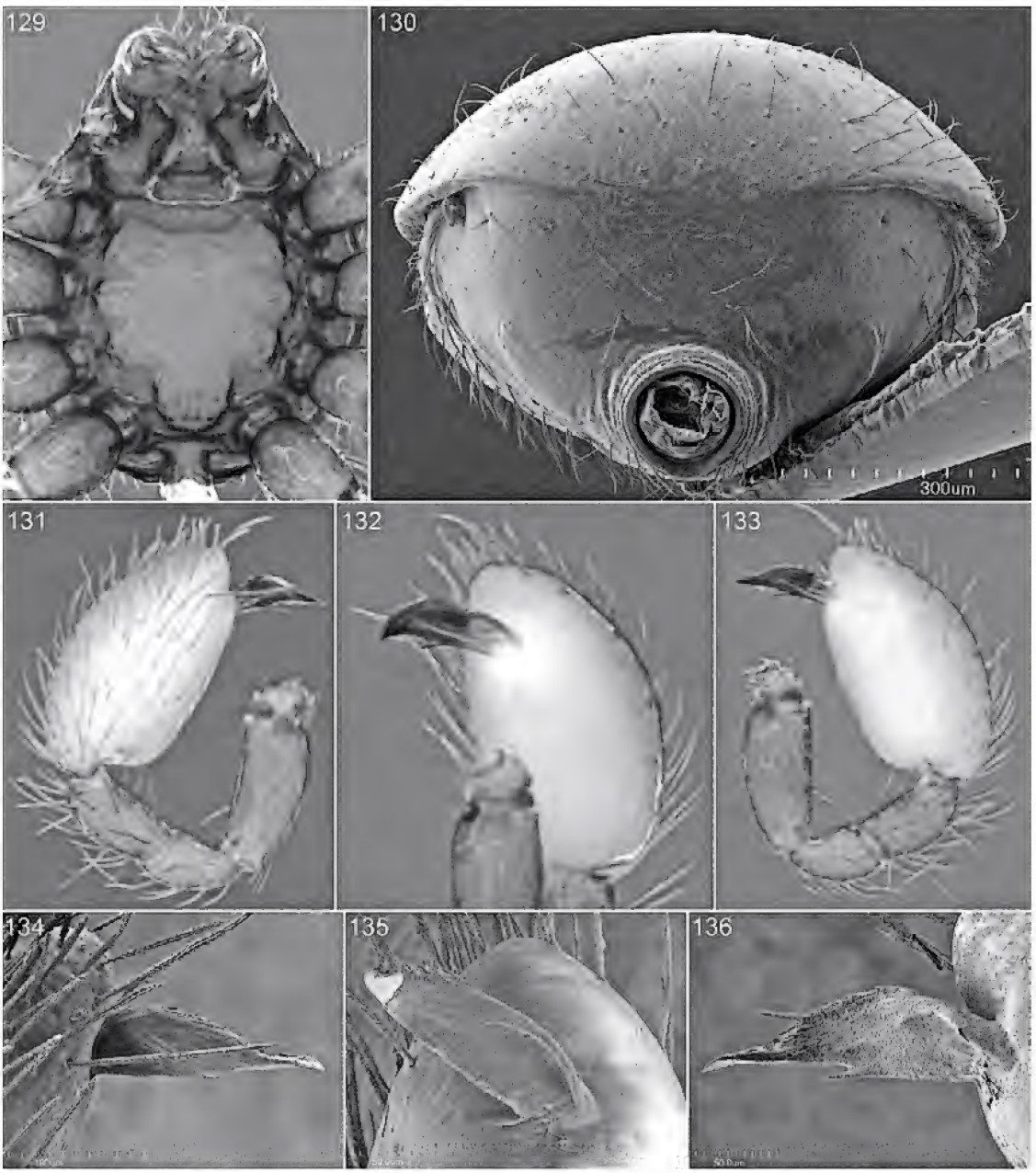
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males have a relatively simple embolus, which is broad throughout most of its length and bears a tiny, proximal prong at about half its length (figs. 131–136); they have less granulation immediately behind the eyes, and a rougher sternal surface (fig. 129), than do both sexes of the sympatric species *P. rasgon*.

MALE (PBI_OON 924, figs. 129, 131–136): Total length 2.58. ALE separated by



Figs. 118–128. *Prodysderina rasgon*, new species, male (118, 121–126) and female (119, 120, 127, 128). **118.** Sternum and mouthparts, ventral view. **119.** Abdomen, ventral view. **120, 127.** Genitalia, ventral view. **121.** Left palp, prolateral view. **122.** Same, ventral view. **123.** Same, retrolateral view. **124.** Left embolus, prolateral view. **125.** Same, ventral view. **126.** Same, retrolateral view. **128.** Genitalia, dorsal view.



Figs. 129–136. *Prodysderina santander*, new species, male (129, 131–136) and *P. filandia*, new species, female (130). **129.** Sternum and mouthparts, ventral view. **130.** Abdomen, anterior view. **131.** Left palp, prolateral view. **132.** Same, ventral view. **133.** Same, retrolateral view. **134.** Left embolus, prolateral view. **135.** Same, ventral view. **136.** Same, retrolateral view.

their radius to diameter. Sternum surface smooth, microsculpture absent, few additional tuberculate setal bases situated more medially and behind anterior sternal groove. Anterior portion of endites sharply pointed. Dorsal scutum fused to epigastric scutum. Postepigastric scutum long, semicircular. Leg spination: femur I p0-0-2, r1-1-0; tibiae:

I v4-4-1p; II v4-4-0; metatarsi: I v2-2-1p; II v2-2-0. Embolus with distal prong twisted proximally and distally, proximal prong reduced to small, sharp protuberance.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Northern Colombia (Santander).

Prodysderina filandia, new species
Figures 130, 137–147

TYPE: Female holotype taken by canopy fogging at an elevation of 1975 m at Finca El Palacio, Cañón del Río Barbas, Filandia, 4°41.436′N, 75°38.827′W, Quindío, Colombia (Mar. 13, 2005; M. Pimienta), deposited in IAVH (108158, PBI_OON 998).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females can easily be recognized by the divided appearance of the genital atrium (figs. 139, 146, 147). The coarsely reticulate surface of the sternum indicates that these specimens are not the unknown females of *P. santander*.

MALE: Unknown.

FEMALE (PBI_OON 998, figs. 130, 137–147): Total length 1.61. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 2/3 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-0; II p0-0-2; r1-0-0; tibiae I, II v4-4-1p; metatarsi: I v2-2-1p; II v3-0-2. Anterior genitalic process short, wide.

OTHER MATERIAL EXAMINED: **Colombia:** *Quindío:* Reserva Forestal Bremen, Filandia, 4°41.143′N, 75°37.645′W, Feb. 22, 2005, canopy fogging, elev. 1945 m (M. Pimienta, IAVH 108147, PBI_OON 999), 1♀. *Valle del Cauca:* near Cali, Dec. 15, 1971, elev. 1300 m (W. Eberhard, MCZ PBI_OON 38075), 1♀; Río Yotoco, Sept. 2002, elev. 1500 m (E. Florez, ICN 4097, PBI_OON 1000), 1♀.

DISTRIBUTION: Western Colombia (Valle del Cauca, Quindío).

Prodysderina otun, new species
Figures 673–677

TYPES: Female holotype and three female paratypes from a Berlese sample of early secondary forest litter taken at an elevation of 1800 m in the Otún Quimbaya Flora and Fauna Sanctuary, near La Suiza, Pereira, 4°44′N, 75°35′W, Risaralda, Colombia (June 10, 2005; A. Sabogal), deposited in ICN (PBI_OON 49887).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females can easily be recognized by the very long, medial invagination on the ventral surface of the pedicel tube (fig. 674); the genital atrium is large, oval, and undivided (figs. 676, 677). The coarsely reticulate surface of the sternum indicates that these specimens are not the unknown females of *P. santander*.

MALE: Unknown.

FEMALE (PBI_OON 49887, figs. 673–677): Total length 2.38. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 2/3 of abdomen length, fused to epigastric scutum. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r1-1-0; tibiae I: v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-1p-2. Genital atrium large, ovoid, undivided.

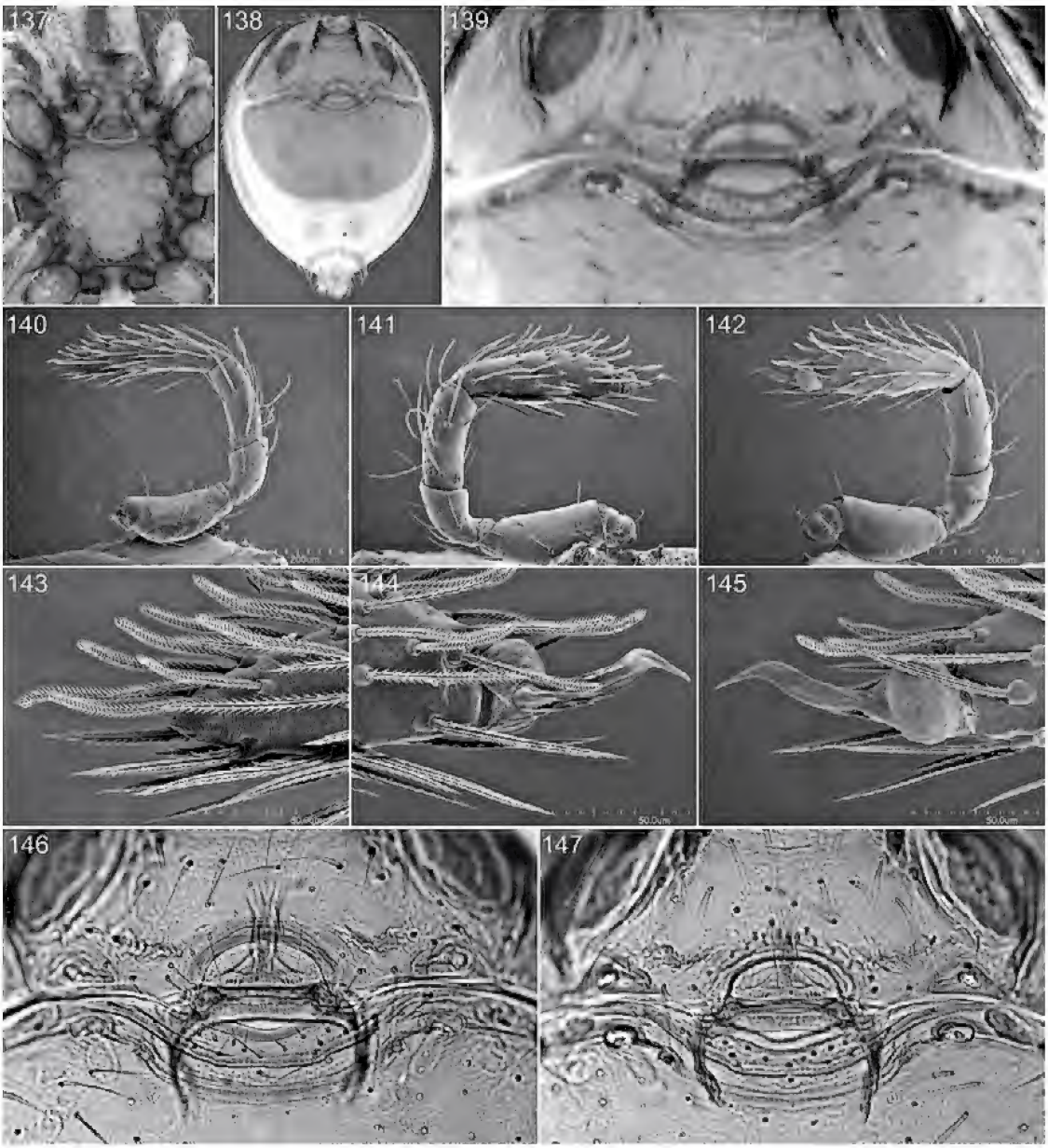
OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Western Colombia (Risaralda).

Aschnaoonops Makhan and Ezzatpanah

Aschnaoonops Makhan and Ezzatpanah, 2011: 1 (type species by original designation *Aschnaoonops aschnae* Makhan and Ezzatpanah).

DIAGNOSIS: Members of this genus resemble those of *Prodysderina* and *Bidysderina* in sternal and spiracular characters, but lack the elongated distal/reduced proximal embolar prong configuration and instead have a twisted (and usually basally widened) embolus in males (figs. 214, 363, 439, 479, 563), and a greatly reduced (or absent) genitalic



Figs. 137–147. *Prodysderina filandia*, new species, female. **137.** Sternum and mouthparts, ventral view. **138.** Abdomen, ventral view. **139, 146.** Genitalia, ventral view. **140.** Right palp, prolateral view. **141.** Left palp, prolateral view. **142.** Same, retrolateral view. **143.** Tip of right palp, prolateral view. **144.** Tip of left palp, prolateral view. **145.** Same, retrolateral view. **147.** Genitalia, dorsal view.

atrium in females (figs. 233, 288, 370, 413, 559).

DESCRIPTION: Total length of males 1.5–2.9, of females 1.6–3.5. Carapace, sternum, mouthparts, abdominal scuta, legs orange-brown, without pattern; abdomen soft portions white, without pattern. **Cephalothorax:** Carapace broadly oval in dorsal view (figs. 148, 178), anteriorly narrowed to 0.49 times its maximum width or less, pars cephalica strongly elevated in lateral view (figs. 149, 179), anterolateral corners with

strongly sclerotized, triangular extension, pars thoracica with rounded posterolateral corners, without depressions or radiating rows of pits, posterolateral edge without pits, posterior margin not bulging below posterior rim, posterolateral surface without spikes; surface of elevated portion of pars cephalica granulate, sides granulate; fovea absent, lateral margin straight, rebordered, with blunt, seta-bearing denticles (fig. 149, except in *A. yasuni* and *A. orito*, which have sharp denticles on lateral margins plus enlarged posterolateral corners); plumose setae near posterior margin of pars thoracica absent; marginal, nonmarginal pars cephalica, pars thoracica setae light, needlelike, scattered. Clypeus margin strongly rebordered, sinuous in front view, vertical in lateral view, high, ALE separated from edge of carapace by their radius or more, median projection present, formed by fused small, triangular chilum (figs. 150, 180); setae light, needlelike. Eyes six, well developed, ALE largest, oval, PME squared, PLE oval; posterior eye row recurved from above, procurved from front; ALE separated by less or more than their radius, ALE-PLE separated by less than ALE radius, PME touching throughout most of their length, PLE-PME separated by less than PME radius. Sternum (figs. 156, 186) wider than long, not fused to carapace, surface without transverse ridges or pits, median concavity and hair tufts absent, with radial furrows between coxae I–II, II–III, III–IV, furrows with rows of small pits, radial furrow opposite coxae III absent, sickle-shaped structures absent, anterior margin with continuous transverse groove, posterior margin not extending posteriorly of coxae IV but with posterior hump, anterior corners excavated, lateral margins with infracoxal grooves bearing anterior, posterior openings, distance between coxae approximately equal, extensions of precoxal triangles absent, lateral margins with bridges to coxae; setae sparse, dark, needlelike, densest laterally, originating from surface, posterior and lateral margins with conspicuous, tuberculate setal bases. Chelicerae slightly divergent, anterior face with slight swelling; usually with one large tooth on promargin, one smaller tooth on retromargin (figs. 151, 152, 181, 182; scanned only in *A. silvae*); fangs without toothlike projections, directed medially, shape normal, without prominent basal process, tip unmodified; setae dark, needlelike, densest medially; paturon inner margin with scattered setae, distal region, posterior surface unmodified, promargin with row of flattened setae, inner margin unmodified, laminate groove absent. Labium (figs. 153, 183) triangular, not fused to sternum, anterior margin not indented at middle, same as sternum in sclerotization; with six or more setae on anterior margin, subdistal portion with unmodified setae. Endites (figs. 153, 154, 183, 184) same as sternum in sclerotization, distally not excavated, serrula usually absent in males, reduced in females (fig. 185; scanned only in *A. silvae*), anterior portion modified in males, posterior portion unmodified; labrum with rounded projection (fig. 155). Female palp (figs. 187, 188) without claw or spines; tibia with three trichobothria (fig. 189), patella without prolateral row of ridges, tarsus elongate. **Abdomen:** Ovoid, without long posterior extension, rounded posteriorly, interscutal membrane without rows of small sclerotized platelets. Booklung covers large, ovoid, without setae, anterolateral edge unmodified; posterior spiracles connected by groove, groove continued beyond spiracles almost to lateral edge of postepigastric scutum (except in *A. cristalina* and *A. paez*, where groove apparently shifted to anterior of spiracles, figs. 299, 509). Pedicel tube medium, ribbed, scutopedicel region unmodified, scutum extending far dorsal of pedicel, plumose hairs, matted setae on anterior ventral abdomen in pedicel area, cuticular outgrowths near pedicel all absent. Dorsal scutum strongly sclerotized, in males covering most to all of abdomen length, width (smaller in females), sometimes fused to epigastric scutum around midline, middle surface smooth, sides smooth, anterior half without projecting denticles. Epigastric scutum strongly sclerotized, surrounding pedicel, not protruding, small lateral sclerites absent, without lateral joints in females. Postepigastric scutum strongly sclerotized, in males covering nearly full length of abdomen, fused to epigastric scutum (in females smaller, not fused to epigastric scutum); anterior margin unmodified, with short posteriorly directed lateral apodemes.

Spinneret scutum present (except in *A. pedro* and *A. cristalina*), incomplete ring, with fringe of long setae; supraanal scutum absent. Abdominal setae dark, needlelike, epigastric area setae not basally thickened; dense patch of setae anterior to spinnerets absent, interscutal membrane with setae. Colulus present, tiny, with pair of setae. Anterior lateral spinnerets bisegmented, basal segment without oblique membranous strip, posterior medians unisegmented, posterior laterals bisegmented (figs. 158, 193); spigots scanned only in *A. silvae*, anterior laterals with single major ampullate gland spigot and four piriform gland spigots in males (fig. 159), seven in females (fig. 194); posterior medians with three spigots in males (two with convex bases, presumably minor ampullate gland spigots, one with concave base, presumably aciniform gland spigot, fig. 160), 10 spigots in females (three with convex bases, seven with concave bases, fig. 195), posterior laterals with three spigots in males (two with convex bases, one with concave base, fig. 161), 10 spigots in females (three with convex bases, seven with concave bases, fig. 196). **Legs:** Femur IV not thickened, same size as femora I–III, patella plus tibia I shorter than carapace, tibia I unmodified, tibia IV specialized hairs on ventral apex, ventral scopula absent, metatarsi I, II mesoapical comb absent, metatarsi III, IV ventral scopula absent. Leg spines present on anterior femora, tibiae, metatarsi; femoral spines strong, tibial and metatarsal spines long, spines absent on posterior legs. Tarsi without inferior claw. Superior claws (scanned only in *A. silvae*) of males with single row of 3–6 teeth set on inner margin (figs. 166–173), of females with two rows of teeth, outer margin with four teeth, distalmost tooth much smaller than others, inner margin with two or three longer teeth (figs. 197–204). Trichobothrial base with numerous parallel ridges (fig. 192). Tarsal organs with three receptors on legs I, II (figs. 174, 175, 205, 206), two on legs III, IV, palps (figs. 176, 177, 207). **Genitalia:** Male epigastric region with sperm pore (fig. 157) situated between anterior and posterior spiracles, rebordered; furrow without Ω-shaped insertions, without specialized setae. Male palp of normal size, not strongly sclerotized, right and left palps symmetrical (except in *A. marta*), proximal segments pale orange, cymbium, bulb yellow; embolus dark, without prolateral excavation; trochanter of normal size, unmodified; femur of normal size, two or more times as long as trochanter, without posteriorly rounded lateral dilation, attaching to patella basally; patella shorter than femur, not enlarged, without prolateral row of ridges, setae unmodified; tibia with three trichobothria (fig. 162); cymbium (figs. 163, 165) ovoid in dorsal view, completely fused with bulb, no seam visible, extending beyond distal tip of bulb, plumose setae, stout setae absent, distal patch of setae sometimes present; bulb shorter than cymbium, stout, elongated. Embolus typically widened, basally twisted (fig. 164). Female genitalia externally with atrium greatly reduced or absent (fig. 190), internally with pair of slight to pronounced protrusions situated near anterior spiracles (presumably serving as muscle attachments), sclerotized anterior genitalic process, often accompanied by transverse basal sclerite (fig. 191).

DISTRIBUTION: Peru north to Puerto Rico.

KEY TO SPECIES FROM PERU AND ECUADOR

1. Males (unknown in *A. jatun* and *A. marshalli*) 2
– Females 6
2. Embolus claw shaped in retrolateral view (figs. 216, 250) 3
– Embolus not claw shaped 4
3. Distal prong of embolus with blunt tip (fig. 216). . . . . *silvae*
– Distal prong of embolus with sharply pointed tip (fig. 250) . . . . . *cosanga*
4. Embolus relatively long (fig. 261). . . *ramirezi*
– Embolus relatively short (figs. 227, 239). . . 5
5. Posterolateral corners of carapace enlarged (as in fig. 219). . . . . *yasuni*
– Posterolateral corners of carapace not enlarged. . . . . *tiputini*
6. Posterolateral corners of carapace enlarged (fig. 219). . . . . *yasuni*
– Posterolateral corners of carapace not enlarged. 7
7. Pedicel tube with ventral notch (figs. 254, 270) 8
– Pedicel tube without notch. 9

8. Anterior genitalic process with procurved anterior tip (fig. 273) . . . . . *marshalli*
– Anterior genitalic process otherwise (fig. 263) . . . . . *ramirezi*
9. Anterior genitalic process with wide, rectangular anterior expansion (fig. 218) . . . *silvae*
– Anterior genitalic process otherwise 10
10. Anterior genitalic process relatively long, slightly widened both at base and tip (fig. 241). . . . . *tiputini*
– Anterior genitalic process relatively short, uniform in width (figs. 252, 268). 11
11. Apodemes basally enlarged (fig. 268) . . . *jatun*
– Apodemes otherwise (fig. 252) . . . . *cosanga*

Aschnaoonops silvae, new species
Figures 148–218

TYPES: Male holotype, female allotype, and four male paratypes taken by canopy fogging at Pithecia, 05°11′S, 74°42′W, Loreto, Peru (May 13–30, 1990; T. Erwin, D. Silva), deposited in MUSM (PBI_OON 818).

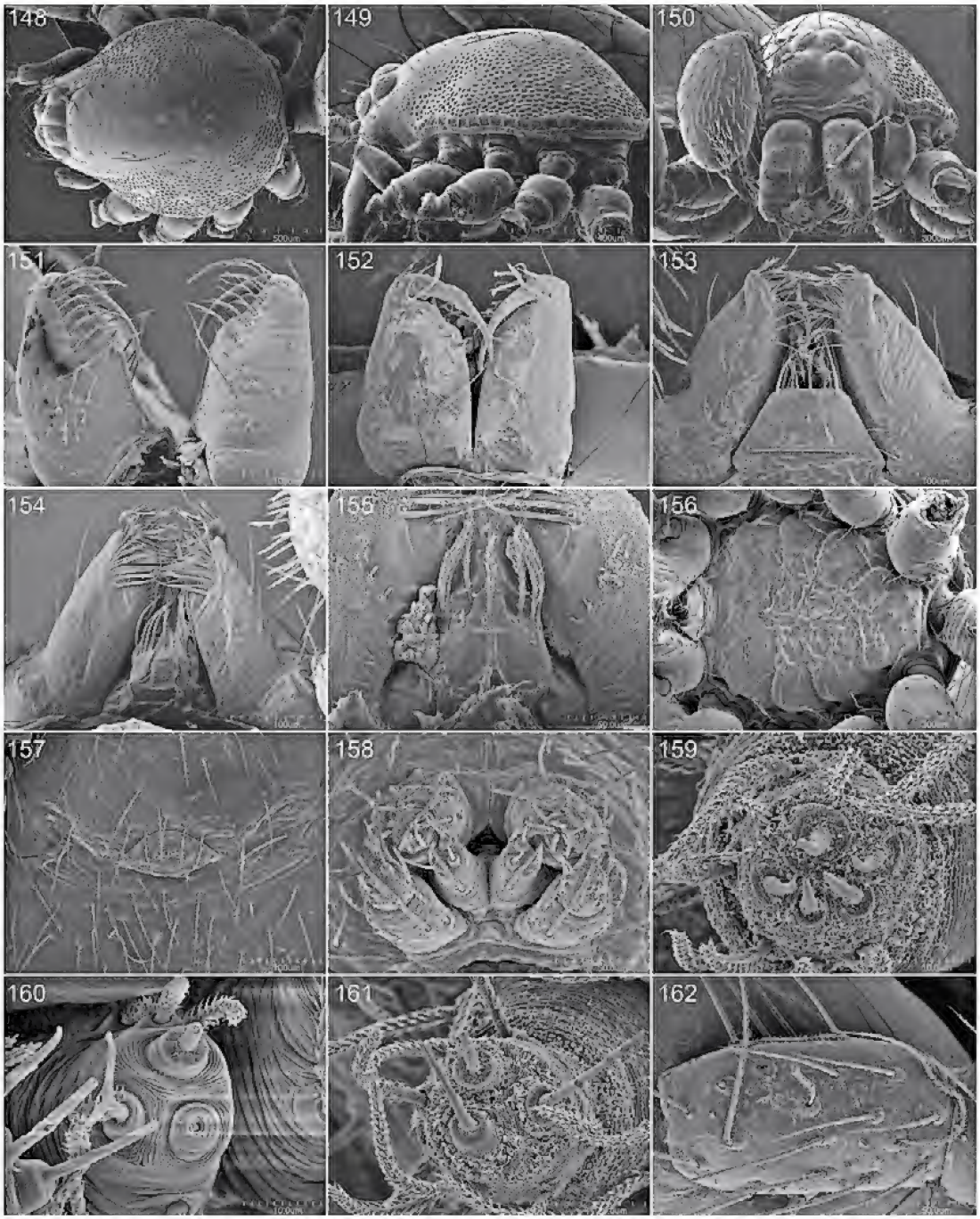
ETYMOLOGY: The specific name is a patronym in honor of one of the collectors, the leading Peruvian arachnologist Diana Silva.

DIAGNOSIS: Males can easily be recognized by the overhanging distal prong and the spiniform proximal prong of the embolus (figs. 211–216), females by the distinctively shaped sclerotization visible through the cuticle at the base of the epigastric scutum (figs. 210, 217) and the wide, rectangular anterior expansion on the anterior genitalic process (fig. 218).

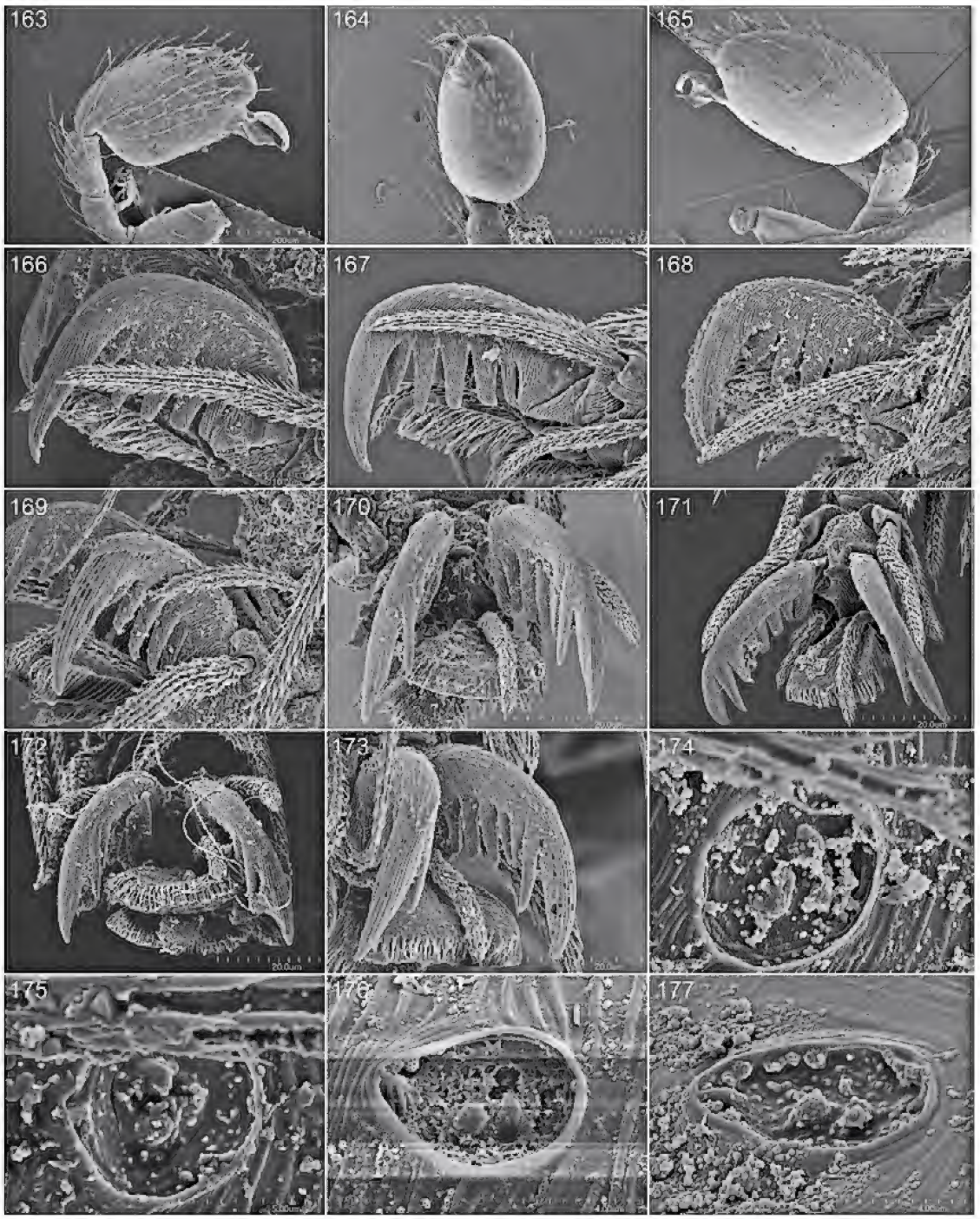
MALE (PBI_OON 821, figs. 148–177, 208, 211–216): Total length 1.69. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites distally narrowed into sharply pointed projection. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to about 3/4 of abdomen length. Leg spination: femur I p0-0-1; tibiae I, II v4-4-0; metatarsi I, II v2-2-0. Sperm pore large, narrow, slitlike. Cymbium with distal patch of setae. Embolus ventral portion with very narrow, spiniform, arched projection, dorsal portion with thicker arched projection.

FEMALE (PBI_OON 821, figs. 178–207, 209, 210, 217, 218): Total length 1.86. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, extending to about 2/3 of abdomen length. Leg spination: femora: I p0-0-2, r2-1-0; II p0-0-2, r1-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi I, II v3-2-0. Posterior portion of anterior genitalic process surrounded by distinctive basal sclerite, sclerite longer ventrally than dorsally.

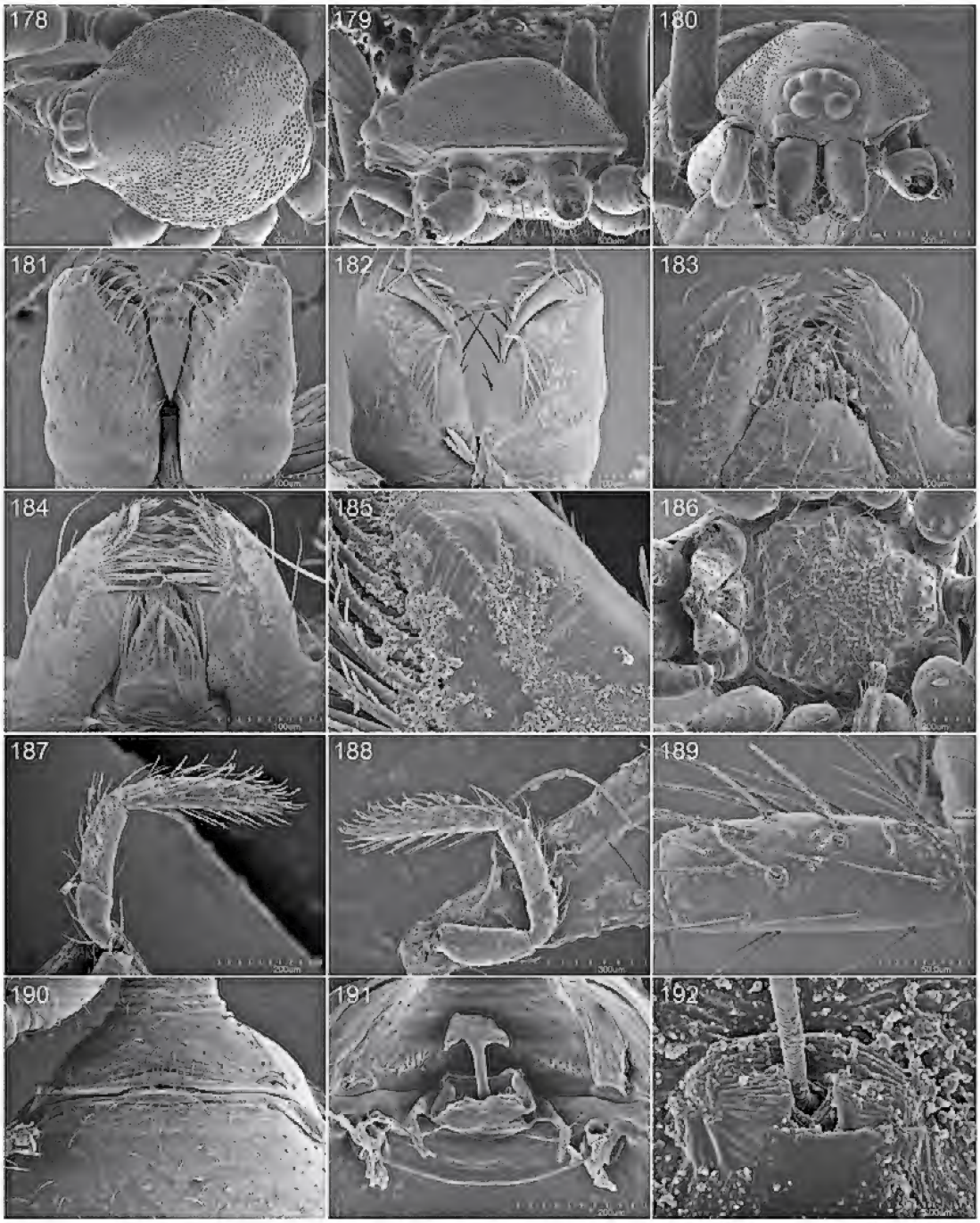
OTHER MATERIAL EXAMINED: **Colombia:** *Vaupés:* Estación Biológica Caparú, Taraira, Lago Taraira, below Río Caparú, Apr. 2003, elev. 200 m (L. Benavides, ICN 2218, PBI_OON 836), 3♂, 3♀. **Ecuador:** *Morona-Santiago:* Ashura village on Río Macuma, about 10 km from Río Morona, July 5–17, 1971, elev. 300 m (B. Malkin, FMNH 56516, PBI_OON 10757), 1♀. *Orellana:* Estación de Biodiversidad Tiputini, 0°37′55″S, 76°08′39″W, no date (QCAZ 79084, PBI_OON 830, 832), 1♂, 2♀, July 24, 2001, fogging (T. Erwin et al., QCAZ PBI_OON 831), 1♂, all 220–250 m, T. Erwin et al., USNM: July 1–5, 1998 (PBI_OON 944, 945, 948–953, 38372), 12♂, 13♀, Oct. 21–24, 1998 (PBI_OON 925, 927, 940, 942, 943, 946, 954–959), 18♂, 9♀; Estación Científica Yasuní, 0.067428°S, 76.39764°W, Dec. 1–5, 2009, wet forest litter, elev. 295 m (M. Ramírez, MACN PBI_OON 30597, 30831), 7♂ (including Eva Gaublomme sequencing voucher), 1♀; 1 km S Onkone Gare Camp, 0°39′25.77″S, 76°27′10.8″W, Reserva Etnica Waorani, all elev. 216 m, T. Erwin et al., USNM: Oct. 4–6, 1994 (PBI_OON 933, 37689, 37695, 37697, 37705, 37712, 37718, 37720, 37721, 37730, 37733, 38187, 38204, 38353, 38354), 9♂, 14♀, July 2–6, 1995 (PBI_OON 37700, 38206, 38356), 4♀, Oct. 4–5, 1995 (PBI_OON 926, 928, 929, 932, 934, 938, 37696, 37701, 37703, 37707, 37713, 37714, 37722, 37725, 37731, 37732, 37734, 38180, 38186, 38192, 38205, 38355, 38359, 38366, 38368), 30♂, 27♀, Oct. 7–8, 1995 (PBI_OON 37675, 37677, 37678, 37685, 37688, 37691, 37693, 37694, 37704, 37706, 37708, 37709, 37719, 37723, 37726, 38183, 38360, 38370), 17♂, 24♀, Feb. 4–8, 1996 (PBI_OON 931, 941, 947, 1870, 37676, 37681, 37684, 37687, 37690, 37692, 37698, 37710, 37716, 37729, 38177, 38179, 38191, 38196, 38198, 38203, 38350, 38361–38363, 38369), 21♂, 17♀, Feb. 13, 1996 (PBI_OON 37683, 38184, 38185, 38188,



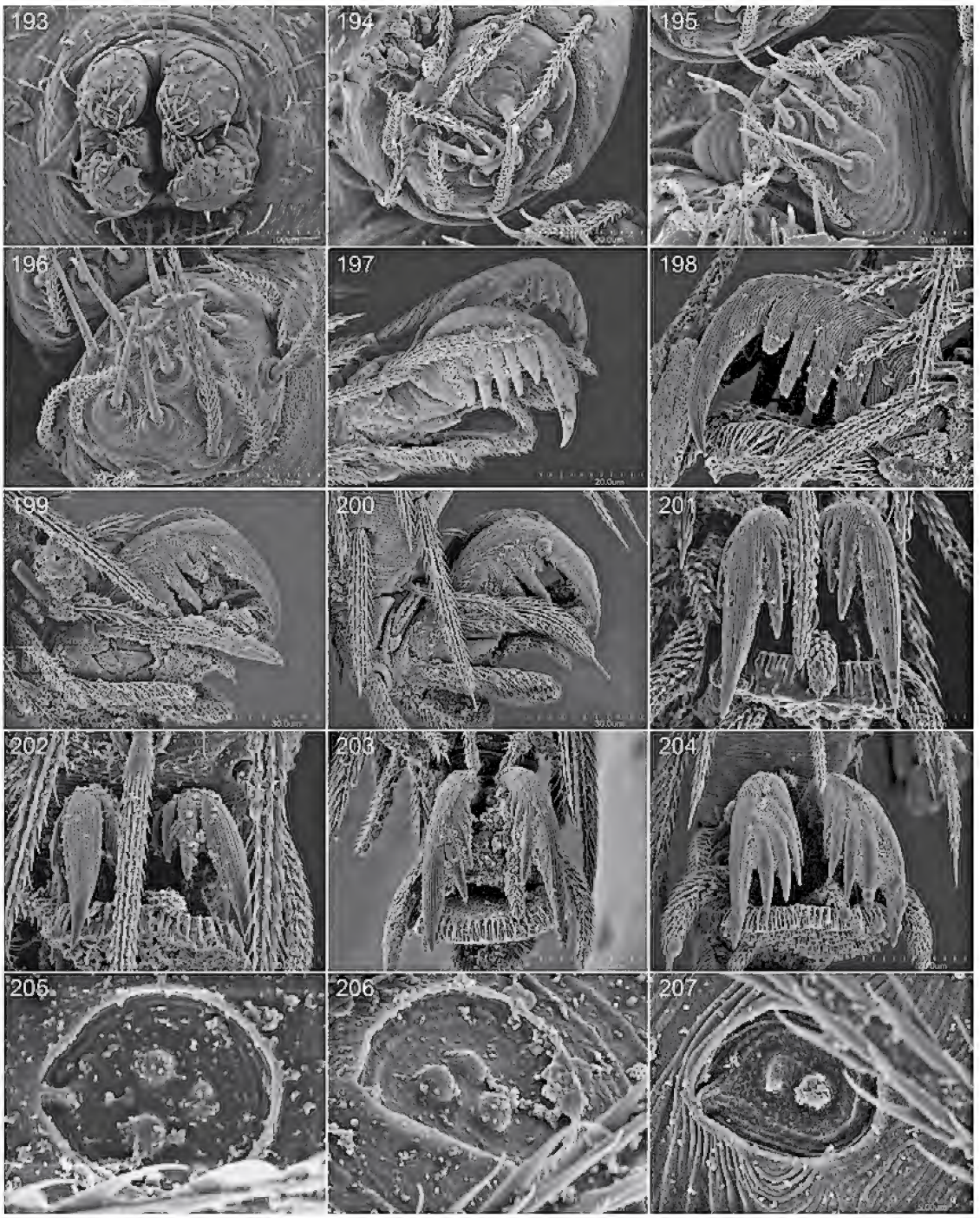
Figs. 148–162. *Aschnaoonops silvae*, new species, male. **148.** Carapace, dorsal view. **149.** Same, lateral view. **150.** Same, anterior view. **151.** Chelicerae, anterior view. **152.** Same, posterior view. **153.** Labium and endites, ventral view. **154.** Labrum and endites, dorsal view. **155.** Labrum, dorsal view. **156.** Sternum, ventral view. **157.** Epigastric region, ventral view. **158.** Spinnerets, distal view. **159.** Anterior lateral spinneret, same. **160.** Posterior median spinneret, same. **161.** Posterior lateral spinneret, same. **162.** Palpal tibia, dorsal view.



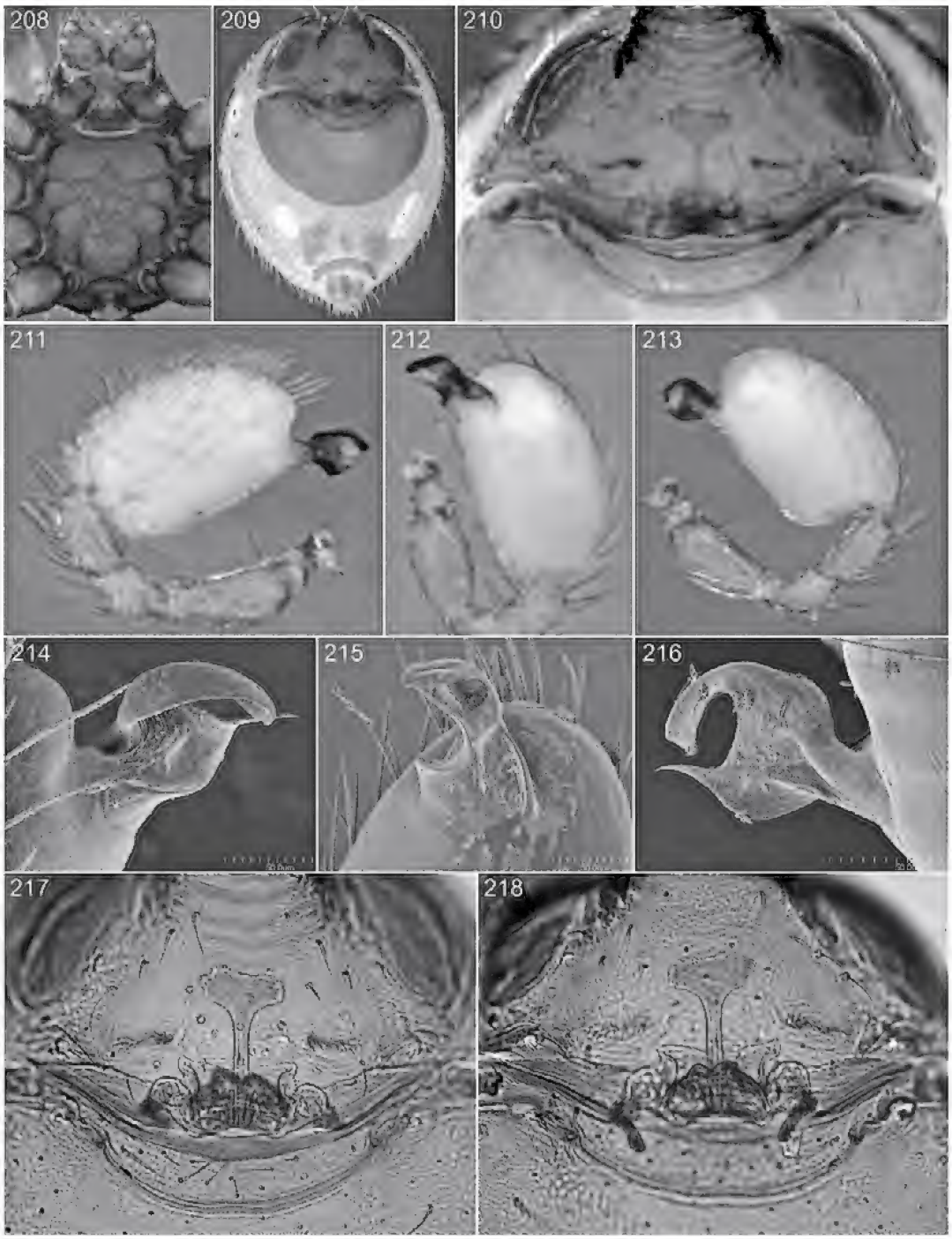
Figs. 163–177. *Aschnaoonops silvae*, new species, male. **163.** Left palp, prolateral view. **164.** Left palpal bulb, ventral view. **165.** Left palp, retrolateral view. **166.** Claws of leg I, lateral view. **167.** Same, leg II. **168.** Same, leg III. **169.** Same, leg IV. **170.** Claws of leg I, distal view. **171.** Same, leg II. **172.** Same, leg III. **173.** Same, leg IV. **174.** Tarsal organ from leg I, dorsal view. **175.** Same, leg II. **176.** Same, leg IV. **177.** Same, palp.



Figs. 178–192. *Aschnaoonops silvae*, new species, female. **178.** Carapace, dorsal view. **179.** Same, lateral view. **180.** Same, anterior view. **181.** Chelicerae, anterior view. **182.** Same, posterior view. **183.** Labium and endites, ventral view. **184.** Labrum and endites, dorsal view. **185.** Serrula, dorsal view. **186.** Sternum, ventral view. **187.** Palp, prolateral view. **188.** Same, retrolateral view. **189.** Palpal tibia, dorsal view. **190.** Epigastric region, ventral view. **191.** Genitalia, dorsal view. **192.** Trichobothrial base from metatarsus I, dorsal view.



Figs. 193–207. *Aschnaoonops silvae*, new species, female. **193.** Spinnerets, distal view. **194.** Anterior lateral spinneret, same. **195.** Posterior median spinneret, same. **196.** Posterior lateral spinneret, same. **197.** Claws of leg I, lateral view. **198.** Same, leg II. **199.** Same, leg III. **200.** Same, leg IV. **201.** Claws of leg I, distal view. **202.** Same, leg II. **203.** Same, leg III. **204.** Same, leg IV. **205.** Tarsal organ from leg I, dorsal view. **206.** Same, leg II. **207.** Same, leg IV.



Figs. 208–218. *Aschnaoonops silvae,* new species, male (208, 211–216) and female (209, 210, 217, 218). **208.** Sternum and mouthparts, ventral view. **209.** Abdomen, ventral view. **210, 217.** Genitalia, ventral view. **211.** Left palp, prolateral view. **212.** Same, ventral view. **213.** Same, retrolateral view. **214.** Left embolus, prolateral view. **215.** Same, ventral view. **216.** Same, retrolateral view. **218.** Genitalia, dorsal view.

38189, 38199, 38357), 3♂, 6♀, May 21, 1996 (PBI_OON 38352), 1♀, June 21–22, 1996 (PBI_OON 37680, 37686, 37702, 37727, 37728, 38181, 38202, 38351, 38365), 6♂, 7♀, June 25–26, 1996 (PBI_OON 37679, 37699, 37711, 37715, 37717, 37724, 38178, 38182, 38190, 38193–38195, 38197, 38200, 38201, 38358, 38364, 38367, 38371), 17♂, 13♀, Oct. 1–3, 1996 (PBI_OON 930, 935, 937, 939), 3♂, 4♀. **Peru:** *Loreto:* Centro de Investigación Jenaro Herrera, 4°54′S, 73°40W, Aug. 26, 1988, forest, elev. 125 m (D. Silva, MUSM 501419, PBI_OON 819), 2♂, 2♀; Mayonina Cocha, Río Orosa, Distrito Amazonas, May 6–10, 2002 (V. Mendez, L. Gomez, INBIO PBI_OON 31049), 2♂; Pithecia, Río Samiria, 5°15′S, 74°40′W, May–June 1990, fogging (T. Erwin et al., MUSM PBI_OON 49925), 1♀; near Pithecia, 5°11′S, 74°42′W, May 1990 (T. Erwin, D. Silva, MUSM PBI_OON 820), 1♀; Río Samiria, Cocha Shinguito, 5°08′S, 74°45′W, May–June 1990, fogging, elev. ca. 100 m (T. Erwin et al., MUSM PBI_OON 821), 68♂, 62♀.

DISTRIBUTION: Amazonian areas of Peru, Ecuador, and Colombia.

Aschnaoonops yasuni, new species
Figures 219–230

TYPE: Male holotype from a Berlese sample of humid forest litter taken at an elevation of 295 m at the Estación Científica Yasuní, 0.067428°S, 76.39764°W, Orellana, Ecuador (Dec. 1–5, 2009; M. Ramírez, Niarchos Exped.), deposited in QCAZ (PBI_OON 826).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Both sexes can easily be recognized by the protrusions at the posterolateral corners of the carapace and the sharp denticles on the lateral margins of the carapace (fig. 219), features shared only with the Colombian species *A. orito*. Males of *A. orito* are unknown, but females of *A. yasuni* have the anterior genitalic process widened both anteriorly and posteriorly (fig. 230).

MALE (PBI_OON 826, figs. 219, 220, 222–227): Total length 2.24. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior portion of endites with triangular, heavily sclerotized ventral process not reaching as far distally as more dorsal, less heavily sclerotized tip. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, semicircular, extending nearly full length of abdomen. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-1, r0-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-1p. Sperm pore large, narrow, slitlike. Cymbium with distal patch of setae. Embolus with distal prong more heavily sclerotized than proximal prong.

FEMALE (PBI_OON 827, figs. 221, 228–230): Total length 2.96. ALE separated by their radius to diameter. Postepigastric scutum almost semicircular, extending to about 2/3 of abdomen length. Leg spination: femora I, II p0-0-2, r0-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi I, II v2-2-2. Anterior genitalic process relatively wide, expanded anteriorly.

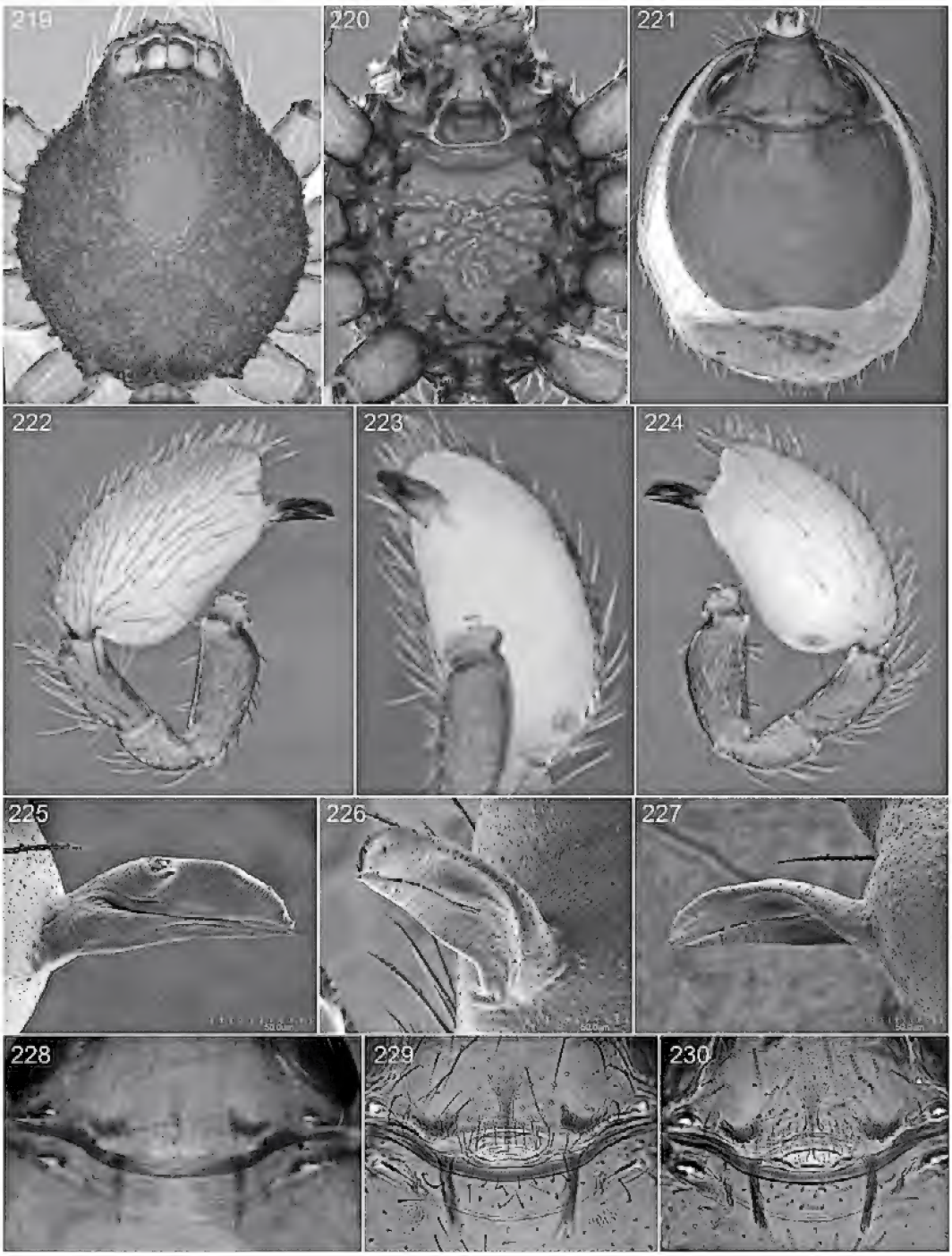
OTHER MATERIAL EXAMINED: **Ecuador:** *Napo:* Estación Biológica Jatun Sacha, 1°03′57.5″S, 77°37′00.2″W, Dec. 1–5, 2009, Berlese, wet forest litter, elev. 410 m (C. Grismado, F. Labarque, Niarchos Exped., MACN PBI_OON 30593), 1♂; Estación Biológica Yanayacu, 0°35.955′S, 77°53.431′W, Nov. 25–26, 2009 (Niarchos Exped., MACN PBI_OON 30606), 1♂; Parque Nacional Napo-Galeras, 0°44′00″S, 77°28′07″W, Nov. 27, 2009, elev. 1005 m (Niarchos Exped., AMNH PBI_OON 827), 1♀. *Tungurahua:* 22.7 km E Baños, May 22, 1993, litter near stream, elev. 4650 ft (L. Herman, AMNH PBI_OON 66), 1♀.

DISTRIBUTION: Ecuador (Napo, Orellana, Tungurahua).

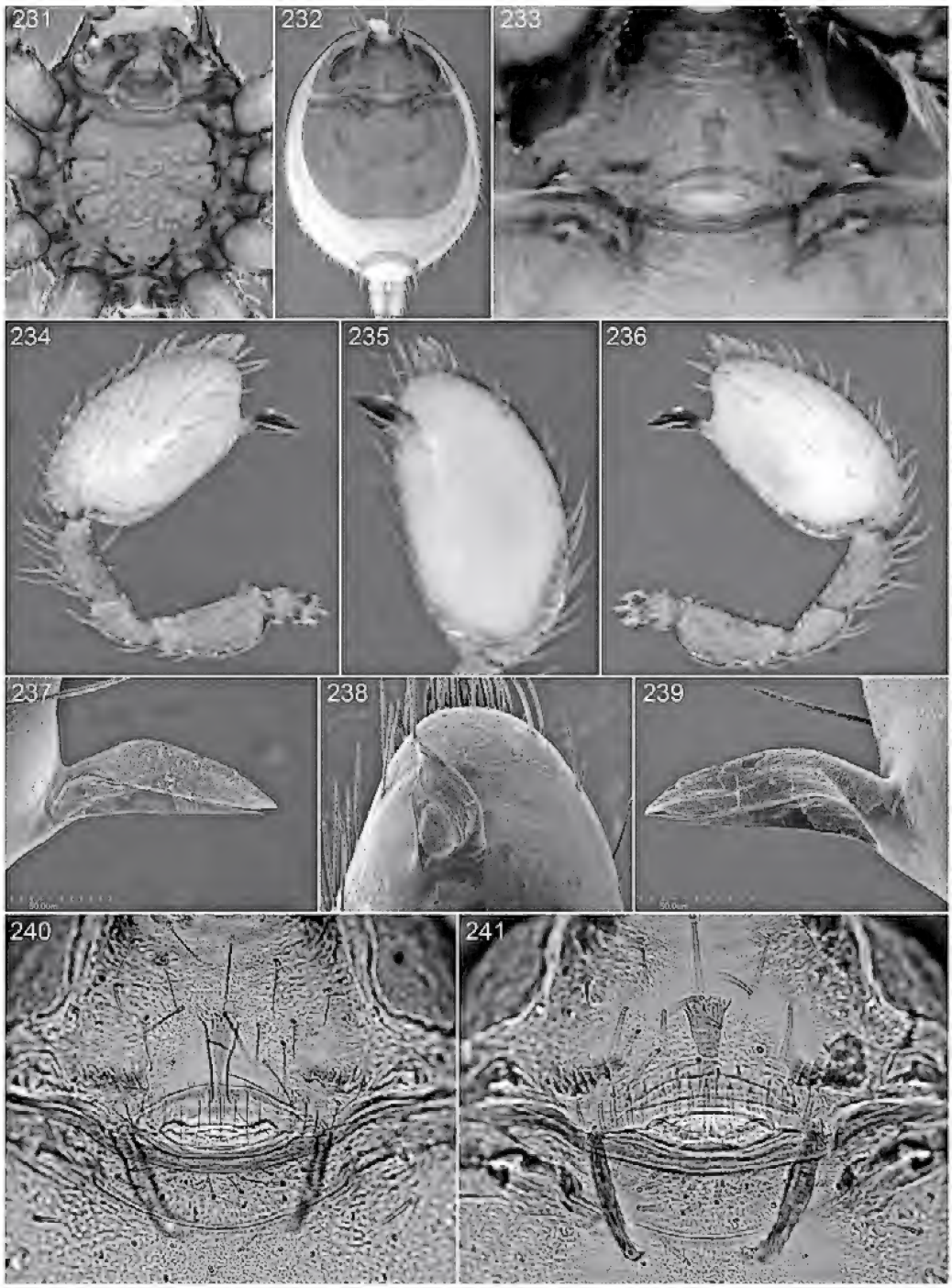
Aschnaoonops tiputini, new species
Figures 231–241

TYPES: Male holotype and female allotype taken at an elevation of 220–250 m at the Estación de Biodiversidad Tiputini, near the Parque Nacional Yasuní, 0°37′55″S, 76°08′39″W, Orellana, Ecuador (July 4, 1998; T. Erwin et al.), deposited in USNM (PBI_OON 828).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.



Figs. 219–230. *Aschnaoonops yasuni*, new species, male (219, 220, 222–227) and female (221, 228–230). **219.** Carapace, dorsal view. **220.** Sternum and mouthparts, ventral view. **221.** Abdomen, ventral view. **222.** Left palp, prolateral view. **223.** Same, ventral view. **224.** Same, retrolateral view. **225.** Left embolus, prolateral view. **226.** Same, ventral view. **227.** Same, retrolateral view. **228, 229.** Genitalia, ventral view. **230.** Same, dorsal view.



Figs. 231–241. *Aschnaoonops tiputini*, new species, male (231, 234–239) and female (232, 233, 240, 241). **231.** Sternum and mouthparts, ventral view. **232.** Abdomen, ventral view. **233, 240.** Genitalia, ventral view. **234.** Left palp, prolateral view. **235.** Same, ventral view. **236.** Same, retrolateral view. **237.** Left embolus, prolateral view. **238.** Same, ventral view. **239.** Same, retrolateral view. **241.** Genitalia, dorsal view.

DIAGNOSIS: Both sexes resemble those of *A. yasuni* but lack protrusions at the posterolateral corners of the carapace and have shorter, blunter tubercles on the lateral margins of the carapace. The proximal margin of the distal prong of the embolus is more sinuous than in *A. yasuni* (fig. 238), and the sclerite at the base of the anterior genitalic process is more heavily sclerotized (fig. 241).

MALE (PBI_OON 828, figs. 231, 234–239): Total length 1.83. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites distally with ventral, triangular projection occupying about half of endite width, not reaching as far anteriorly as dorsal portion. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, semicircular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v2-2-0. Sperm pore large, narrow, slitlike. Cymbium with distal patch of setae. Embolus with proximal prong less heavily sclerotized than distal prong.

FEMALE (PBI_OON 828, figs. 232, 233, 240, 241): Total length 1.88. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, extending to about 2/3 of abdomen length. Leg spination: femora I, II p0-0-2, r0-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi I, II v2-2-1p. Anterior genitalic process relatively wide, slightly expanded anteriorly.

OTHER MATERIAL EXAMINED: **Ecuador:** *Orellana:* Estación de Biodiversidad Tiputini, near Parque Nacional Yasuní, 0°37′55″S, 76°08′39″W, Oct. 24, 1998, elev. 220–250 m (T. Erwin et al., USNM PBI_OON 833), 1♀; Estación Científica Yasuní, 0.067428°S, 76.39764°W, Dec. 1–5, 2009, Berlese, wet forest litter, elev. 295 m (M. Ramírez, MACN PBI_OON 30595, 30830), 4♂ (including Eva Gaublomme sequencing voucher); 1 km S Onkone Gare Camp, 0°39′25.77″S, 76°27′10.8″W, Reserva Etnica Waorani, June 26, 1996, elev. 216 m (T. Erwin et al., USNM PBI_OON 834, 936, 37682), 1♂, 2♀.

DISTRIBUTION: Northeastern Ecuador (Orellana).

Aschnaoonops cosanga, new species
Figures 242–252

TYPE: Female holotype taken in montane evergreen forest litter at an elev. of 2150 m at a site 2.5 km W of Cosanga, 0°35′24″S, 77°53′19″W, Napo, Ecuador (Nov. 5, 1999; R. Anderson), deposited in AMNH (PBI_OON 823).

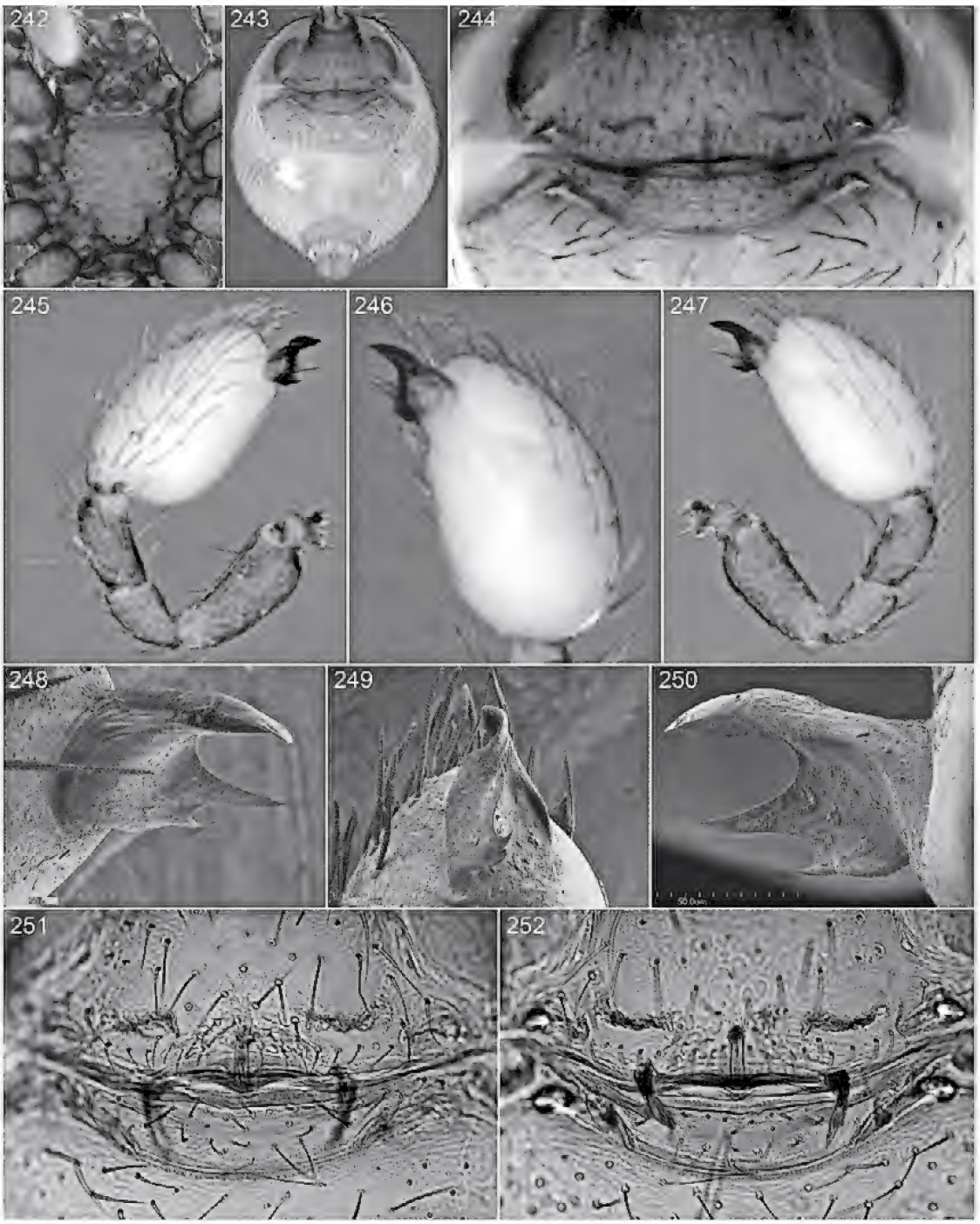
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females have a short postepigastric scutum and an anteriorly narrow anterior genitalic process (figs. 243, 252); the single male here tentatively assigned to the species resembles that of *A. silvae* but has a retrolaterally flatter embolar base (figs. 248–250).

MALE (PBI_OON 835, figs. 242, 245–250): Total length 1.85. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior part of endites with narrow, triangular projection. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, semicircular, extending to nearly full length of abdomen. Leg spination: femur I p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v2-2-0. Sperm pore small, circular. Cymbium with distal patch of setae. Embolus with translucent median prong between dark proximal and distal prongs.

FEMALE (PBI_OON 823, figs. 243, 244, 251, 252): Total length 2.11. Dorsal scutum covering 1/2 to 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum short, covering about 1/3 of abdomen length. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-2, r0-1-0; tibiae I, II v4-4-2; metatarsi: I v2-2-1p; II v2-2-0. Anterior genitalic process relatively short, wide.

OTHER MATERIAL EXAMINED: **Ecuador:** *Carchi:* Estación Biológica Guandera, ca. 15 km E San Gabriel, 0°35′11″N, 77°44′372″W, Nov. 1, 1999, clusia/bromeliad forest litter, elev. 3500 m (R. Anderson, AMNH PBI_OON



Figs. 242–252. *Aschnaoonops cosanga*, new species, male (242, 245–250) and female (243, 244, 251, 252). **242.** Sternum and mouthparts, ventral view. **243.** Abdomen, ventral view. **244, 251.** Genitalia, ventral view. **245.** Left palp, prolateral view. **246.** Same, ventral view. **247.** Same, retrolateral view. **248.** Left embolus, prolateral view. **249.** Same, ventral view. **250.** Same, retrolateral view. **252.** Genitalia, dorsal view.

829), 1♀. *Napo:* Macucoloma trail, Estación Biológica Yanayacu, 0°36.196′S, 77°53.407W, Nov. 25–30, 2009, beating, elev. 2100 m (Niarchos Exped., MACN PBI_OON 30839, Eva Gaublomme sequencing voucher), 1♀; Parque Nacional Napo-Galeras, road between Tena and Loreto, 0°44′00.0″S, 77°35′28.7″W, Nov. 27, 2009, elev. 1100 m (Niarchos Exped., MACN PBI_OON 30621), 1♀; Río Perdido trail, Estación Biológica Yanayacu, 0°36.496′S, 77°52.947′W, Nov. 25–26, 2009, hand collecting, elev. 2085 m (M. Ramírez et al., Niarchos Exped., MACN PBI 49579), 1♀, Nov. 26, 2009, elev. 2085 m (Niarchos Exped., AMNH PBI 49577, 1♀; trail to San Jorge de Yanayacu Wildlife Reserve, 0.58813°S, 77.88428°W, Nov. 26, 2009, elev. 2130 m (Niarchos Exped., AMNH PBI_OON 49530), 1♀; Stream trail, Estación Biológica Yanayacu, 0.60022°S, 77.89039°W, Nov. 24, 2009, leaf litter, elev. 2175 m (Niarchos Exped., AMNH PBI_OON 49580), 5♀ (including Eva Gaublomme DNA-sequencing voucher). *Orellana:* Parque Nacional Yasuní, 0°40′16″S, 76°24′18″W, Dec. 1–5, 2009, elev. 228 m (B. Baehr, Niarchos Exped., AMNH PBI_OON 835), 1♂.

DISTRIBUTION: Northeastern Ecuador (Carchi, Napo, Orellana).

Aschnaoonops ramirezi, new species
Figures 253–263

TYPES: Male holotype and female allotype from Berlese sample of humid litter taken at an elevation of 295 m at the Estación Científica Yasuní, 0.067428°S, 76.39764°W, Orellana, Ecuador (Dec. 1–5, 2009; M. Ramírez), deposited in QCAZ (PBI_OON 30569).

ETYMOLOGY: The specific name is a patronym in honor of the collector of the type, Martín Ramírez of the MACN.

DIAGNOSIS: Males can be recognized by the elongate, distally flared embolus (figs. 259–261) and the presence of a distinct, triangular protuberance on the anterior surface of the cheliceral paturon, not far from the base of the fang (fig. 253); females resemble those of *A. marshalli*, *A. merida*, and *A. trujillo* in having a ventrally notched pedicel tube (fig. 254), but have a narrow genitalic atrium with strong margins (figs. 262, 263).

MALE (PBI_OON 30569, figs. 253, 256–261): Total length 1.58. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior portion or endites with very narrow ventral projection. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, semicircular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r0-1-1; II v4-4-0; patellae: II v2-1p-2; tibiae I, II v4-4-1p; metatarsi: I v2-2-1p; II v2-1p-2. Sperm pore small, narrow, slitlike. Cymbium with distal patch of setae. Proximal prong of embolus much longer than distal prong, greatly widened subdistally.

FEMALE (PBI_OON 30569, figs. 254, 255, 262, 263): Total length 1.67. Postepigastric scutum short, almost rectangular, covering about 3/4 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r0-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v3-2-0. Anterior genitalic process very short.

OTHER MATERIAL EXAMINED: **Ecuador:** *Orellana:* Estación Científica Yasuní, 0.067428°S, 76.39764°W, Dec. 1–5, 2009, Berlese, humid litter, elev. 295 m (M. Ramírez, Niarchos Exped., MACN PBI_OON 30566), 2♀; Parque Nacional Yasuni, 0°40′16″S, 76°24′18″W, Dec. 1–5, 2009, litter, elev. 230 m (B. Baehr, Niarchos Exped., AMNH PBI_OON 49549), 1♂.

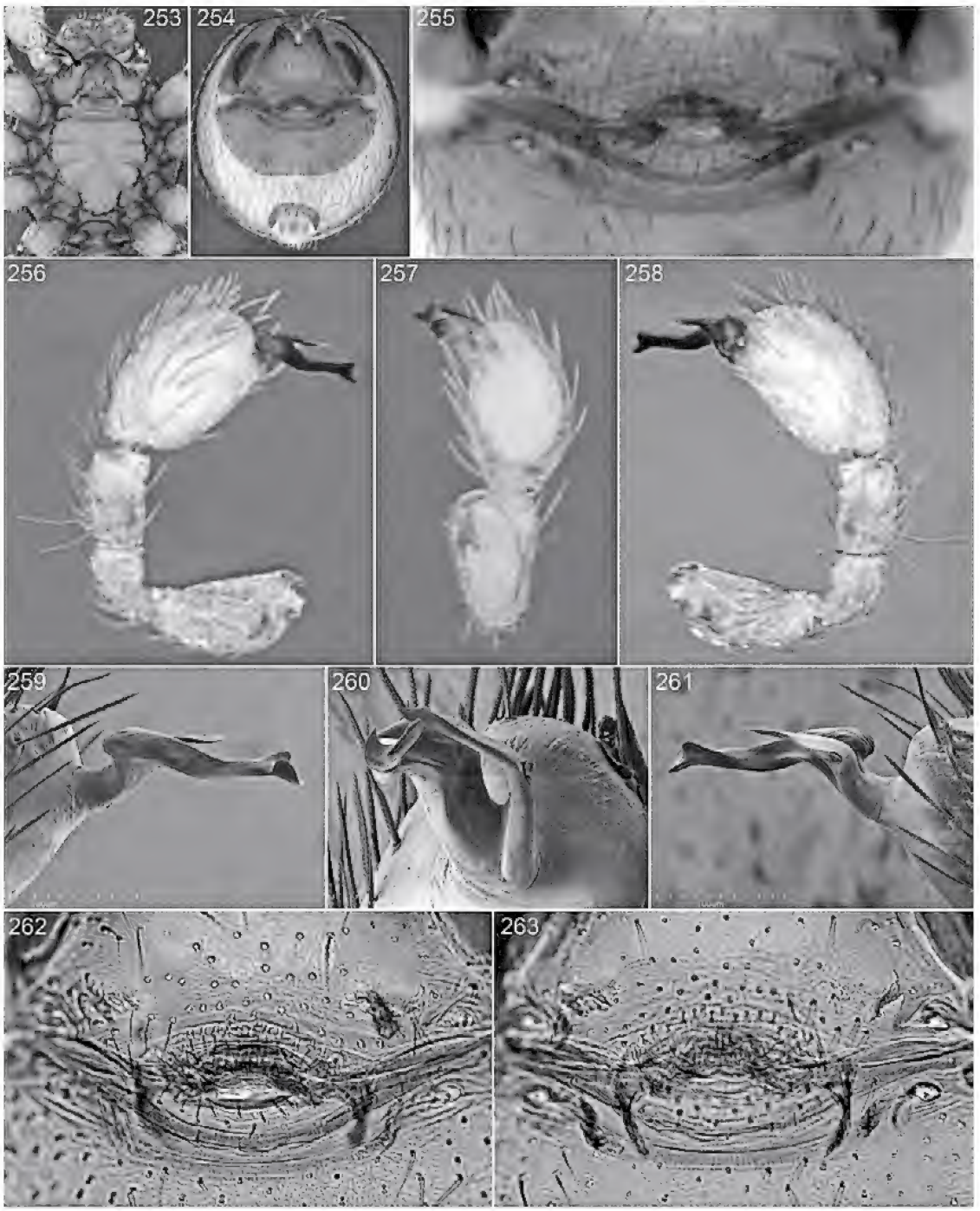
DISTRIBUTION: Ecuador (Orellana).

Aschnaoonops jatun, new species
Figures 264–268

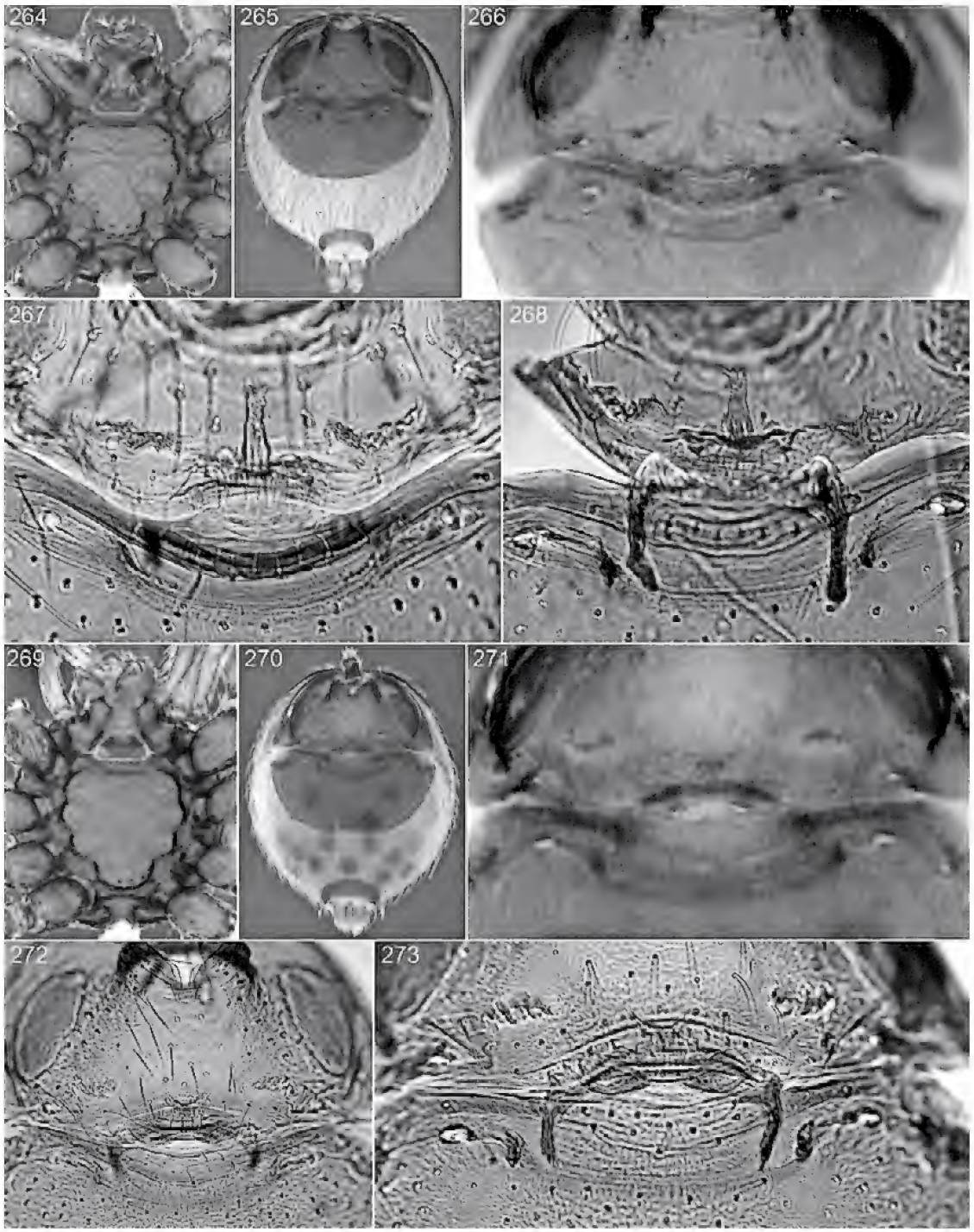
TYPE: Female holotype from a Berlese sample of wet forest litter taken at an elevation of 410 m at the Estación Biológica Jatun Sacha, 1°03′57.5″S, 77°37′00.2″W, Napo, Ecuador (Dec. 1–5, 2009; Niarchos Exped.), deposited in QCAZ (PBI_OON 30594).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females resemble those of *A. cosanga* in having a short postepigastric scutum (fig. 265) and a short, narrow anterior genitalic process (fig. 267), but have the genitalic apodemes much longer and much



Figs. 253–263. *Aschnaoonops ramirezi*, new species, male (253, 256–261) and female (254, 255, 262, 263). **253.** Sternum and mouthparts, ventral view. **254.** Abdomen, ventral view. **255, 262.** Genitalia, ventral view. **256.** Left palp, prolateral view. **257.** Same, ventral view. **258.** Same, retrolateral view. **259.** Left embolus, prolateral view. **260.** Same, ventral view. **261.** Same, retrolateral view. **263.** Genitalia, dorsal view.



Figs. 264–273. *Aschnaoonops jatun*, new species, female (264–268) and *A. marshalli*, new species, female (269–273). **264, 269.** Sternum and mouthparts, ventral view. **265, 270.** Abdomen, ventral view. **266, 267, 271, 272.** Genitalia, ventral view. **268, 273.** Genitalia, dorsal view.

closer to each other than in that species (fig. 268).

MALE: Unknown.

FEMALE (PBI_OON 30594, figs. 264–268): Total length 1.82. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, not fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-1, r1-1-0; tibiae: I v4-4-2; II v4-4-0; metatarsi: I v2-1p-2; II v2-0-2. Anterior genitalic process with basal projections, not expanded anteriorly.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Ecuador (Napo).

Aschnaoonops marshalli, new species
Figures 269–273

TYPES: Female holotype taken by sifting rainforest litter 20–30 yards from the edge of a lake at Limoncocha, near Río Negro, Sucumbios, Ecuador (Dec. 18, 1984; S. Marshall), deposited in AMNH (PBI_OON 37875).

ETYMOLOGY: The specific name is a patronym in honor of the collector of the type, Sam Marshall.

DIAGNOSIS: Females resemble those of *A. ramirezi, A. merida,* and *A. trujillo* in having a ventrally notched pedicel tube (fig. 270), but have a very small, unsclerotized atrial area (figs. 271–273).

MALE: Unknown.

FEMALE (PBI_OON 37875, figs. 269–273): Total length 1.60. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum short, almost rectangular, extending to about 2/3 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r0-1-1; tibiae: I v4-4-1p; II v4-4-0; metatarsi: I v2-2-1p; II v2-2-0. Anterior genitalic process short, with expanded, procurved anterior tip.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Ecuador (Sucumbios).

KEY TO SPECIES FROM COLOMBIA

1. Posterolateral corners of carapace enlarged (as in fig. 219). . . . . *orito*
– Posterolateral corners of carapace not enlarged. 2
2. Aside from tuberculate setal bases, sternum surface smooth (fig. 313) 3
– Sternum surface coarsely reticulate 5
3. Embolus relatively long (fig. 328); sclerite at base of anterior genitalic process relatively long (fig. 334) . . . . . *similis*
– Embolus relatively short (figs. 317, 361); sclerite at base of anterior genitalic process relatively short (figs. 323, 367) 4
4. Embolus extended dorsally (fig. 321); anterior genitalic process slightly expanded, asymmetrical at tip (fig. 323) . . . . . *meta*
– Embolus not extended dorsally (fig. 365); anterior genitalic process rocket shaped, not expanded anteriorly (fig. 367) . . . . *chingaza*
5. Males (unknown in *A. paez*). 6
– Females (unknown in *A. leticia* and *A. marta*) 14
6. Right bulb much less inflated than left bulb (figs. 394–399). . . . . *marta*
– Right and left bulbs equally inflated 7
7. Embolus claw shaped in retrolateral view (figs. 216, 294, 310, 354) 8
– Embolus not claw shaped 11
8. Distal prong of embolus with proximally directed, blunt tip (fig. 216) . . . . . *silvae*
– Distal prong of embolus otherwise 9
9. Proximal prong of embolus without accessory spur (fig. 354) . . . . . *alban*
– Proximal prong of embolus with accessory spur (figs. 294, 310). 10
10. Accessory spur situated near tip of proximal prong (fig. 294). . . . . *pira*
– Accessory spur situated near base of proximal prong (fig. 310). . . . . *huila*
11. Embolus prolaterally with long spur (fig. 385) . . . . . *pedro*
– Embolus prolaterally with flattened plate with serrate edge (figs. 280, 341, 374) . . . 12
12. Embolus with invaginated dorsal margin (fig. 341). . . . . *propinquus*
– Embolus without invaginated dorsal margin (figs. 280, 374) 13
13. Embolus relatively narrow (fig. 282) . . . *leticia*
– Embolus relatively wide (fig. 376) . . . *pamplona*
14. Anterior genitalic process without distinct anterior expansion (figs. 300, 301). . . . *paez*
– Anterior genitalic process with distinct anterior expansion (as in fig. 218). 15
15. Expansion on anterior genitalic process wide, rectangular (figs. 218, 312, 356, 378) 16

– Expansion on anterior genitalic process otherwise 19
16. Sclerite at base of anterior genitalic process relatively narrow (fig. 218) . . . . . *silvae*
– Sclerite at base of anterior genitalic process relatively wide (figs. 312, 356, 378) 17
17. Apodemes relatively long (fig. 378) . . . . . *pamplona*
– Apodemes relatively short (figs. 312, 356) 18
18. Sclerite at base of anterior genitalic process medially invaginated (fig. 312) . . . . . *huila*
– Sclerite at base of anterior genitalic process not medially invaginated (fig. 356) . . . *alban*
19. Anterior genitalic process with gradually widened anterior expansion (fig. 345) . . . . . *propinquus*
– Anterior genitalic process with abruptly widened anterior expansion (figs. 296, 389) 20
20. Apodemes relatively long (figs. 388, 389) . . . . . *pedro*
– Apodemes relatively short (figs. 295, 296) . . . . . *pira*

Aschnaoonops leticia, new species
Figures 274, 277–282

TYPE: Male holotype taken in malaise trap at Leticia, Amazonas, Colombia (July 9–11, 1970; J. Campbell), deposited in CNC (PBI_OON 38127).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males have a distally arrow-shaped embolus (figs. 280–282).

MALE (PBI_OON 38127, figs. 274, 277–282): Total length 1.55. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior portion of endites with broadly triangular ventral process. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to about 3/4 of abdomen length. Leg spination: femur I p0-0-2, r1-1-0; tibiae: I v4-4-1p; II v4-4-0; metatarsi: I v2-2-1p; II v2-2-0. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus with prolateral portion distally widened in ventral view, tip relatively small.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Southern Colombia (Amazonas).

Aschnaoonops orito, new species
Figures 275, 276, 283–285

TYPE: Female holotype taken at an elevation of 850 m at Orito, Vereda Líbano Predio, 0°40′53″N, 77°02′07″W, Putomayo, Colombia (Mar. 10, 2003; I. Grivaldo, F. Quevedo), deposited in ICN (4099, PBI_OON 837).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

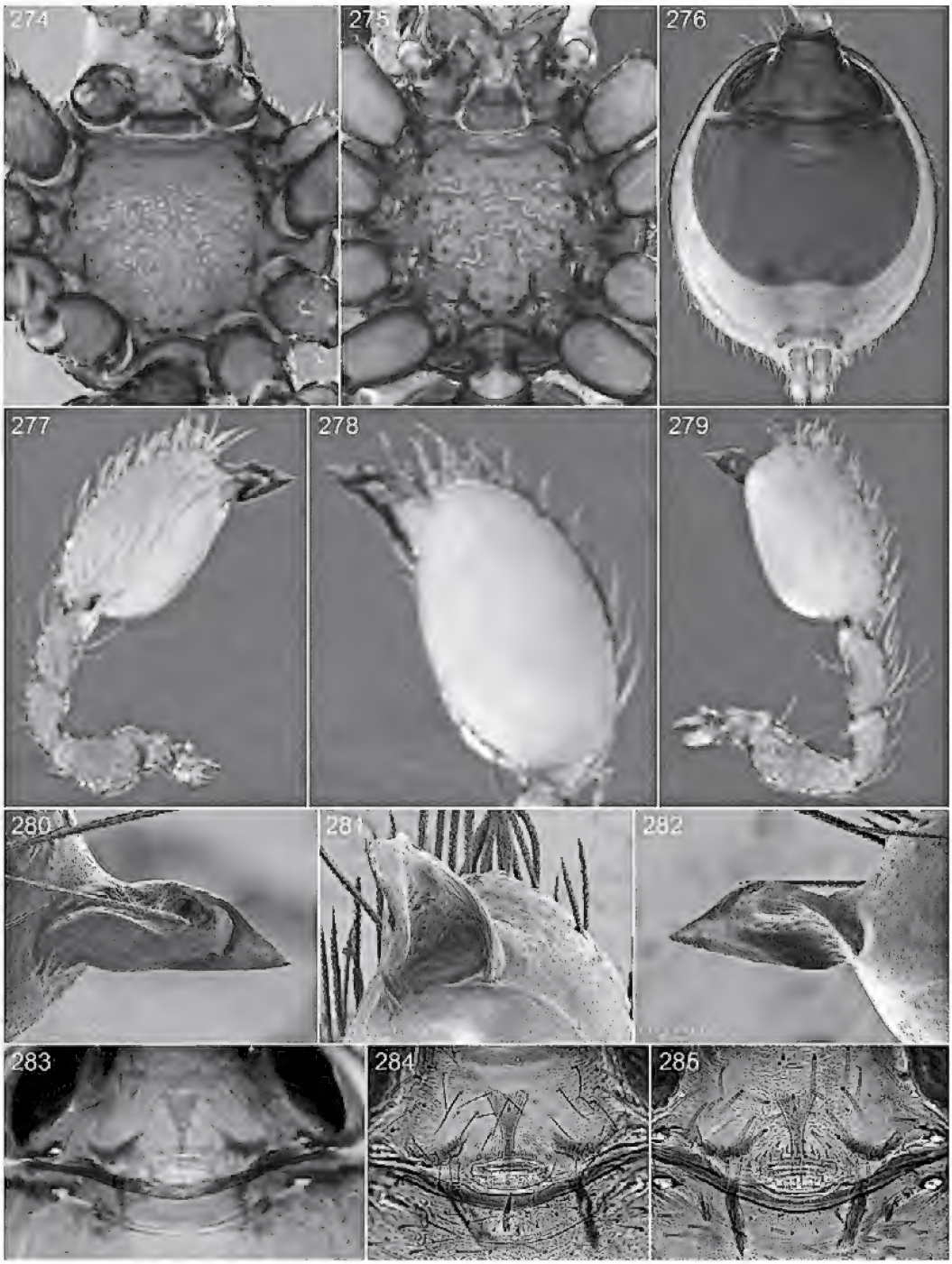
DIAGNOSIS: Females closely resemble those of the Ecuadorian species *A. yasuni* in having protrusions at the posterolateral corners of the carapace and sharply pointed denticles on the lateral carapace margins, but have the anterior genitalic projection distally wider and have distinct lateral processes on the sclerite at the base of that projection (fig. 285). Although one of the females was collected near the type locality of *A. leticia*, these animals are much larger and have a much more deeply incised sternum (as well as the posterolateral carapace protrusions) and are therefore unlikely to be the females of *A. leticia*.

MALE: Unknown.

FEMALE (PBI_OON 837, figs. 275, 276, 283–285): Total length 2.89. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, not fused to epigastric scutum. Postepigastric scutum almost rectangular, extending to about 3/4 of abdomen length. Leg spination: femora I, II p0-0-2, r0-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-1p-2. Anterior genitalic process expanded anteriorly, sclerite at base with distinct, medially directed lateral projections.

OTHER MATERIAL EXAMINED: **Colombia:** *Amazonas:* 7 km N Leticia, Feb. 20–25, 1972, Berlese (S. Peck, AMNH PBI_OON 37065), 1♀.

DISTRIBUTION: Southern Colombia (Putomayo, Amazonas).



Figs. 274–285. *Aschnaoonops leticia*, new species, male (274, 277–282) and *A. orito*, new species, female (275, 276, 283–285). **274, 275.** Sternum and mouthparts, ventral view. **276.** Abdomen, ventral view. **277.** Left palp, prolateral view. **278.** Same, ventral view. **279.** Same, retrolateral view. **280.** Left embolus, prolateral view. **281.** Same, ventral view. **282.** Same, retrolateral view. **283, 284.** Genitalia, ventral view. **285.** Genitalia, dorsal view.

Aschnaoonops pira, new species
Figures 286–296

TYPE: Male holotype taken at Río Pira and Río Apaporis, 0°25′S, 70°15′W, Amazonas, Colombia (Feb. 7–16, 1989; V., B. Roth), deposited in CAS (PBI_OON 2756).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Both sexes resemble those of the Ecuadorian species *A. cosanga*, but males have a proximal prong on the embolus that is set at a right angle to the distal prong (figs. 292–294); females have a tree-shaped anterior expansion on the anterior genitalic process (fig. 296).

MALE (PBI_OON 2756, figs. 286, 289–294): Total length 1.63. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior portion of endites with narrow, triangular ventral process. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femur I p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-0; metatarsi: I v2-2-1p; II v2-2-0. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Proximal prong of embolus sharply pointed, distal prong narrow, arched.

FEMALE (PBI_OON 839, figs. 287, 288, 295, 296): Total length 1.89. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum widely hexagonal, extending to about 1/2 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi I, II v2-2-1p. Anterior genitalic process tree-shaped, accompanied by long, wide basal sclerite.

OTHER MATERIAL EXAMINED: **Colombia:** *Vaupés:* Estación Biológica Caparu, Taraira, Lago Taraira below Río Apaporis, 1°04′S, 69°29′W, Apr. 2, 2004 (J. Pinzon, ICN PBI_OON 839), 1♂, 2♀, 1°04′S, 69°34′W, May 2001, elev. 2200 m (S. Pinton, A. Sabogal, ICN 4101, PBI_OON 838), 2♀.

DISTRIBUTION: Colombia (Amazonas, Vaupés).

Aschnaoonops paez, new species
Figures 297–301

TYPE: Female holotype taken at an elevation of 3300 m at Páez in the Parque Nacional Nevado del Huila, Cauca, Colombia (Sept. 1980; L. Aristide), deposited in ICN (2220, PBI_OON 840).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females have a long, wide postepigastric scutum and a short, wide genital atrium with thickened anterior and posterior margins (figs. 299–301).

MALE: Unknown.

FEMALE (PBI_OON 840, figs. 297–301): Total length 3.07. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, not fused to epigastric scutum. Postepigastric scutum long, semicircular, extending to about 2/3 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r1-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-1p-2. Anterior genitalic process relatively short, narrow, not distally expanded, accompanied basally by wide sclerotization.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Colombia (Cauca).

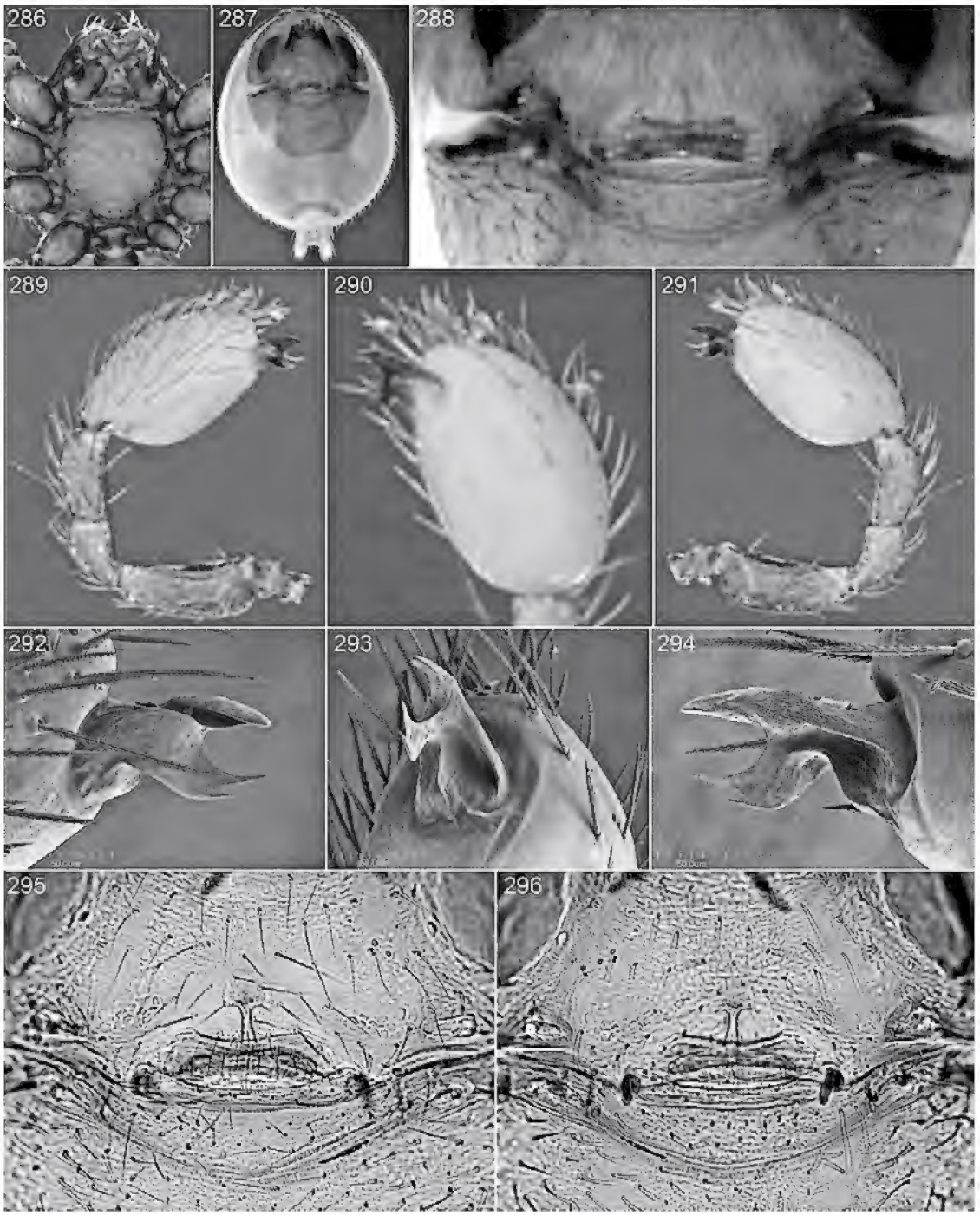
Aschnaoonops huila, new species
Figures 302–312

TYPES: Male holotype and female allotype taken in montane forest litter an elevation of 1600 m at Resina, 1°55′N, 75°42′W. Huila, Colombia (June 8, 1956; H. Sturm), deposited in MCZ (72941, PBI_OON 37003).

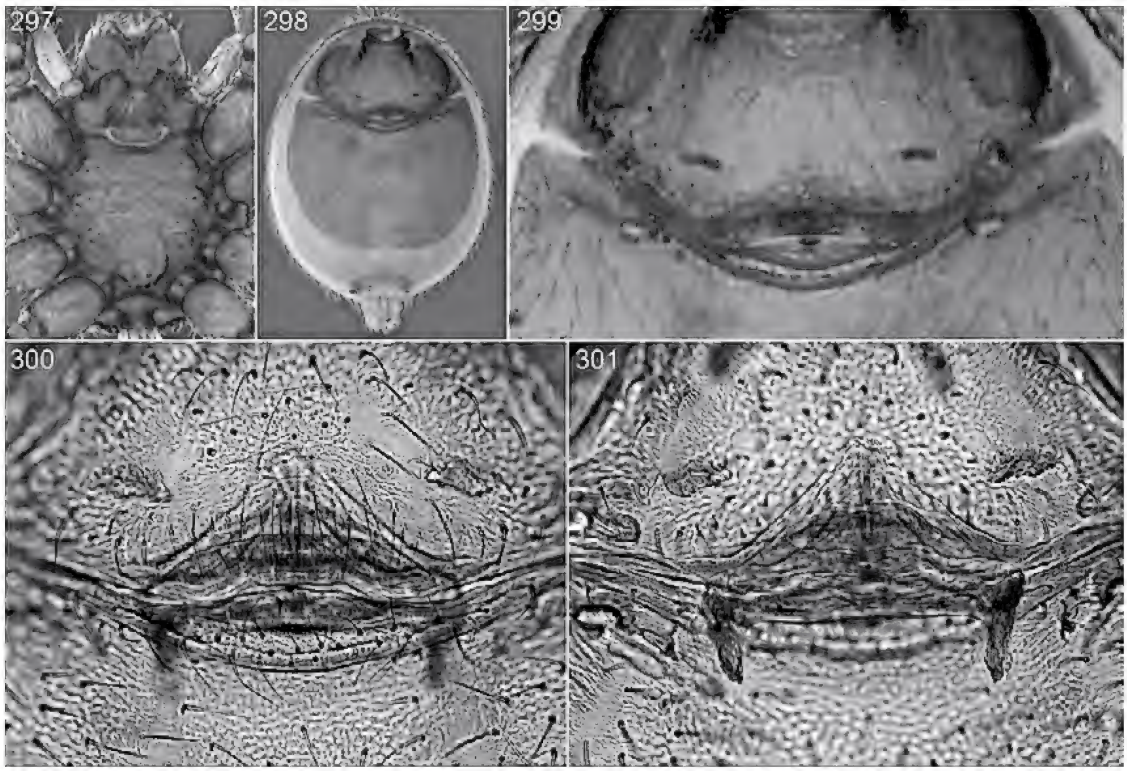
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males have both the proximal and distal embolar prongs triangular, sharply pointed (figs. 308–310); females have a conspicuous, medially invaginated sclerite at the base of the anterior genitalic process (figs. 304, 312).

MALE (PBI_OON 37003, figs. 302, 305–310): Total length 2.08. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior part of endites with long, narrow, pointed projection. Dorsal



Figs. 286–296. *Aschnaoonops pira*, new species, male (286, 289–294) and female (287, 288, 295, 296). **286.** Sternum and mouthparts, ventral view. **287.** Abdomen, ventral view. **288, 295.** Genitalia, ventral view. **289.** Left palp, prolateral view. **290.** Same, ventral view. **291.** Same, retrolateral view. **292.** Left embolus, prolateral view. **293.** Same, ventral view. **294.** Same, retrolateral view. **296.** Genitalia, dorsal view.



Figs. 297–301. *Aschnaoonops paez*, new species, female. **297.** Sternum and mouthparts, ventral view. **298.** Abdomen, ventral view. **299, 300.** Genitalia, ventral view. **301.** Genitalia, dorsal view.

scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femur I p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-1p-2; II v1p-1r-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Proximal prong of embolus with distinct subbasal projection.

FEMALE (PBI_OON 37003, figs. 303, 304, 311, 312): Total length 2.38. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, extending to about 1/2 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi I, II v1p-2-2. Anterior genitalic process greatly expanded, angular distally, accompanied by wide basal sclerite with procurved anterior margin.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Colombia (Huila).

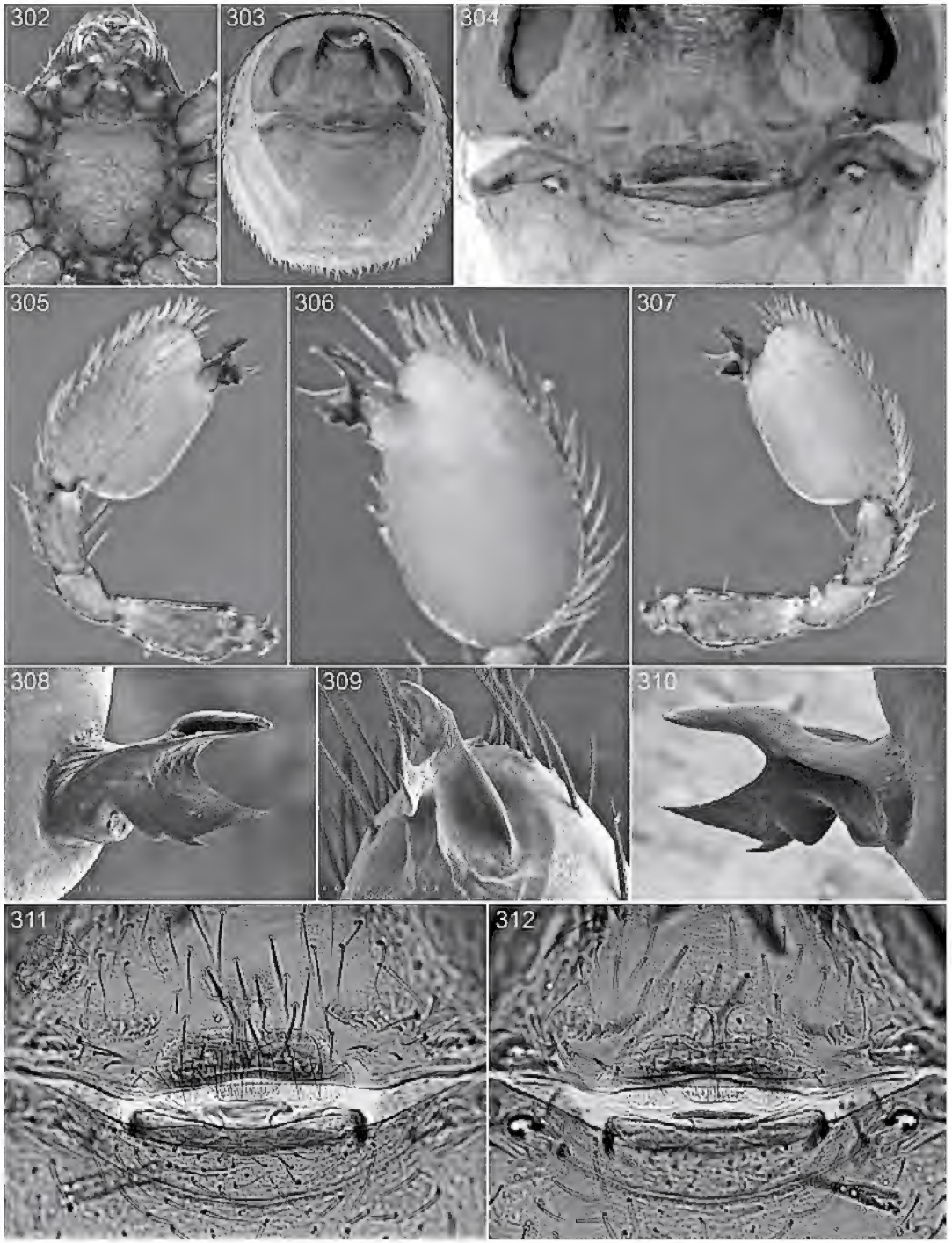
Aschnaoonops meta, new species
Figures 313–323

TYPE: Male holotype from a Berlese sample of forest litter taken at an elevation of 1000 m at Quebrada Susumuco, 23 km NW Villavicencio, Meta, Colombia (Mar. 2, 1972; S. Peck), deposited in AMNH (PBI_OON 29397).

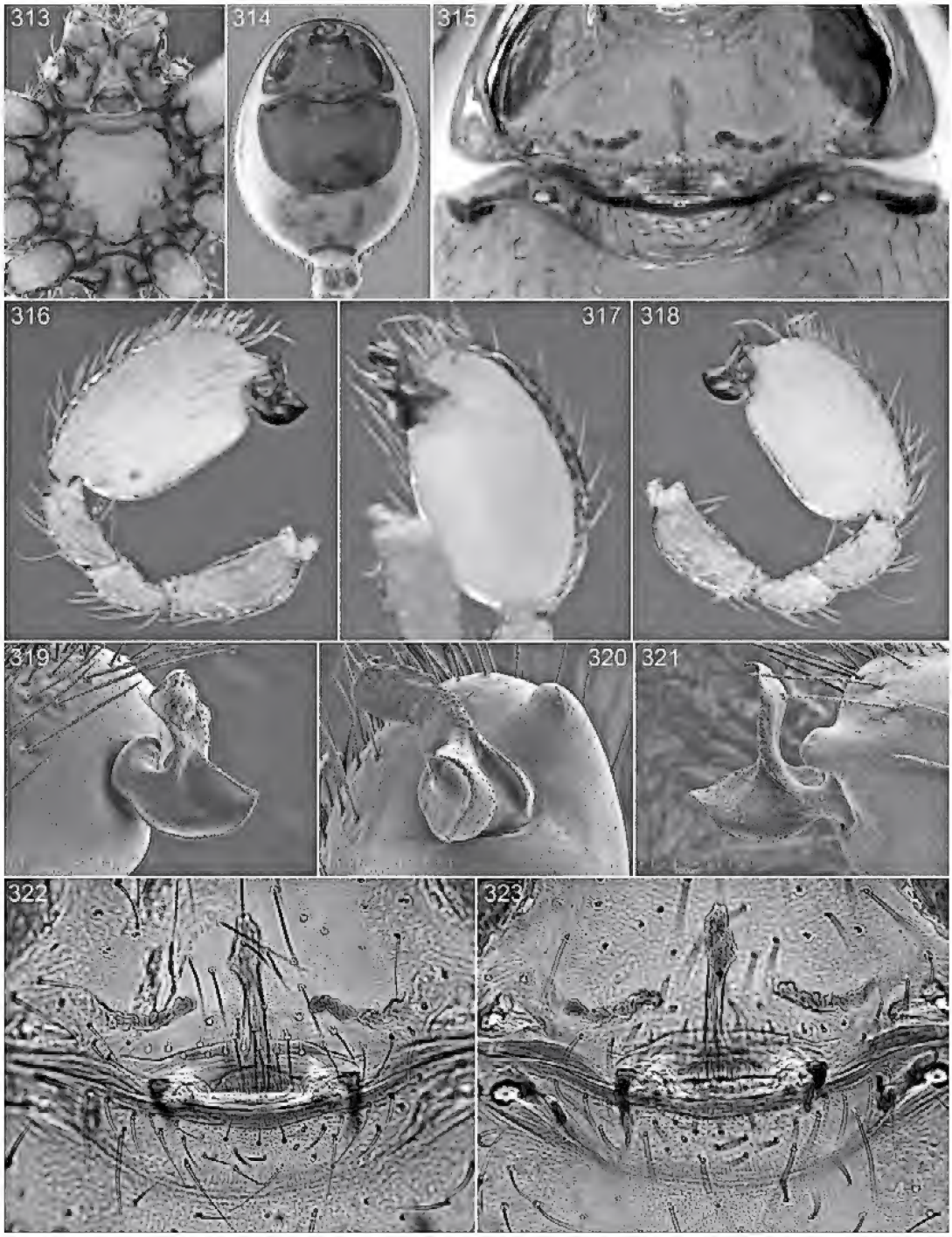
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males have a greatly elongated and narrowed distal prong on the embolus (figs. 319–321); the female here tentatively matched with the male has similar sternal microsculpture and a long, asymmetrical anterior genitalic process (fig. 323).

MALE (PBI_OON 29397, figs. 313, 316–321): Total length 2.50. ALE separated by less than their radius. Sternum surface smooth, microsculpture only at sides. Endites with narrow distal projection extending farther anteriorly than remainder of endite. Dorsal scutum covering full length of abdomen, no



Figs. 302–312. *Aschnaoonops huila*, new species, male (302, 305–310) and female (303, 304, 311, 312). **302.** Sternum and mouthparts, ventral view. **303.** Abdomen, ventral view. **304, 311.** Genitalia, ventral view. **305.** Left palp, prolateral view. **306.** Same, ventral view. **307.** Same, retrolateral view. **308.** Left embolus, prolateral view. **309.** Same, ventral view. **310.** Same, retrolateral view. **312.** Genitalia, dorsal view.



Figs. 313–323. *Aschnaoonops meta*, new species, male (313, 316–321) and female (314, 315, 322, 323). **313.** Sternum and mouthparts, ventral view. **314.** Abdomen, ventral view. **315, 322.** Genitalia, ventral view. **316.** Left palp, prolateral view. **317.** Same, ventral view. **318.** Same, retrolateral view. **319.** Left embolus, prolateral view. **320.** Same, ventral view. **321.** Same, retrolateral view. **323.** Genitalia, dorsal view.

soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r1-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-1p-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus with proximal prong expanded into large scoop.

FEMALE (PBI_OON 841, figs. 314, 315, 322, 323): Total length 3.14. ALE separated by their radius to diameter. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-1p-2. Anterior genitalic process extremely long, only slightly expanded anteriorly.

OTHER MATERIAL EXAMINED: **Colombia:** *Meta:* San Juanito, Plan de San Luis, Parque Nacional Chingaza, 4°29′38″N, 73°41′33″W, Nov. 22–24, 2003, pitfall, forest, elev. 2990 m (I. Quintero, M. Torres, IAVH 108166, PBI_OON 841), 1♀.

DISTRIBUTION: Colombia (Meta).

Aschnaoonops similis (Keyserling), new combination
Figures 324–334

Oonops similis Keyserling, 1881: 297, pl. 11, fig. 17 (male holotype from Colombia, as "Neu-Granada," in BMNH; examined).
Dysderina similis: Simon, 1893a: 304.

DIAGNOSIS: Males can easily be recognized by the large, beak-shaped embolus (figs. 330–332), females by the long, rectangular sclerite at the base of the anterior genitalic process (fig. 334).

MALE (PBI_OON 110, figs. 324, 327–332): Total length 2.68. ALE separated by their radius to diameter. Sternum surface smooth, microsculpture only at sides. Endites with distal projection relatively short, wide. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-0; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-0-2. Sperm pore small, narrow, slitlike. Cymbium with distal patch of setae. Embolus shaped like duck's bill.

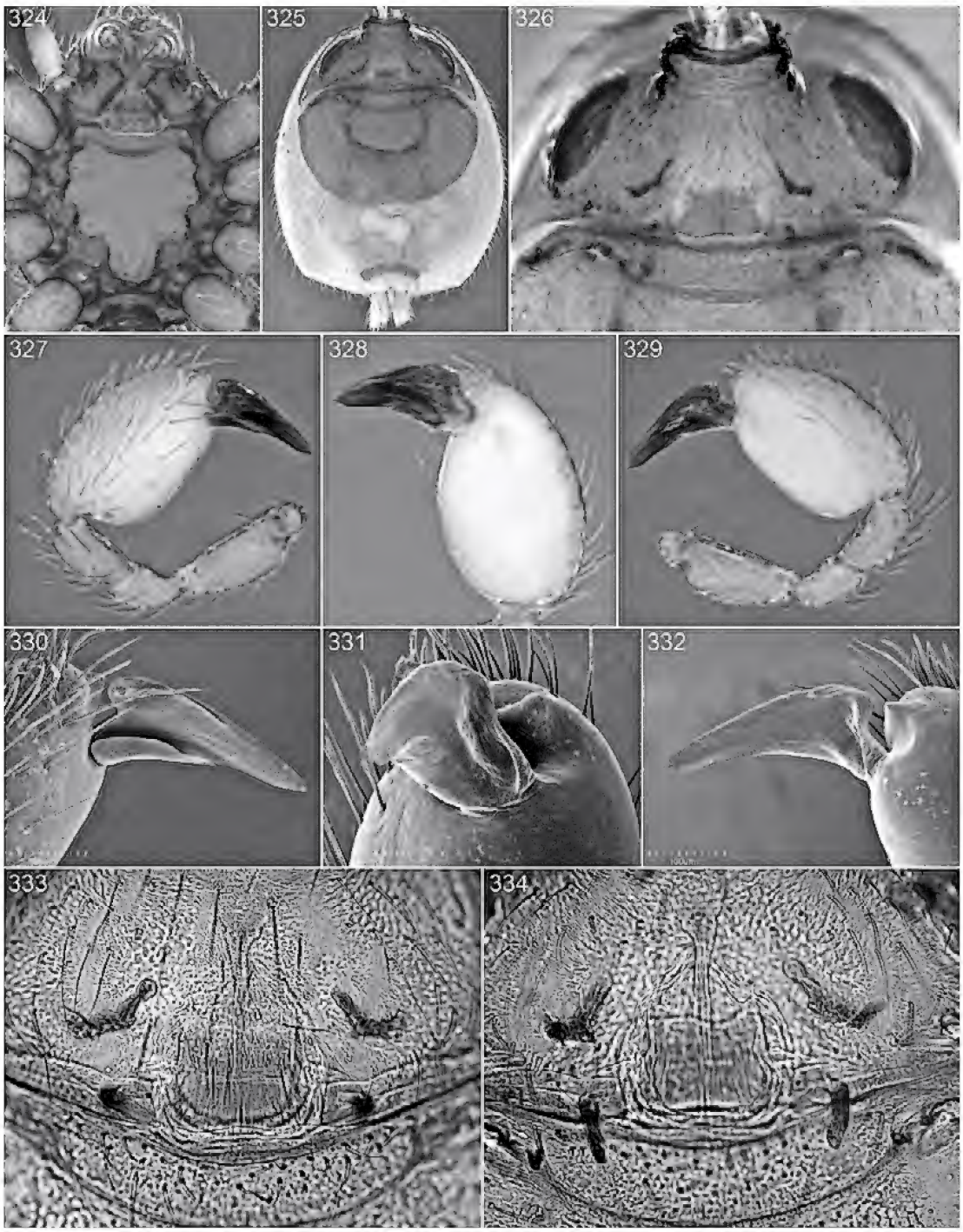
FEMALE (PBI_OON 110, figs. 325, 326, 333, 334): Total length 3.14. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, extending to about 2/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process very long, accompanied by long, rectangular basal sclerite.

OTHER MATERIAL EXAMINED: **Colombia:** no specific locality (BMNH PBI_OON 849), 1♂ (holotype). *Boyacá:* Cabaña Carrizal, Santuario de Flora y Fauna de Iguaque, 5°25′N, 73°27′W, May 2–7, 2001, Winkler trap, elev. 2850 m (P. Reina, IAVH 108101, PBI_OON 848), 1♀; Quebrada Carrizal, Santuario de Flora y Fauna de Iguaque, 5°25′N, 73°27′W, Sept. 23–25, 2000, Winkler trap, elev. 3350 m (P. Reina, IAVH 108099, PBI_OON 846), 1♂; Sutamarchán, Serranía Merchán, 5°45′01″N, 73°40′02″W, Apr. 8–10, 2003, dung and pitfall traps, secondary forest, elev. 3220 m (E. González, C. Reina, IAVH 108120, 108121, 108123, 108125, PBI_OON 842–845), 7♂. *Cundinamarca:* Cerro de Monserrate, Bogotá, Dec. 20, 2009, litter, elev. 3165 m (E. Florez, L. Benavides, D. Luna, S. Castellamos, ICN PBI_OON 847), 6♂, 1♀; Páramo de Guaca, ca. 40 km NE Bogotá, July 23, 1968, dead leaves of *Espeletiopsus corymbosa*, elev. 2920 m (H. Sturm, MCZ 72942, PBI_OON 37013), 1♂; Páramo de Monserrate, Bogotá, Apr.–Nov. 1968, pitfalls (H. Sturm, AMNH PBI_OON 110), 2♂, 1♀, Dec. 1978, pitfalls, *Weinmannia* forest (A. Bernal, MCZ 72943, PBI_OON 37012), 1♂, 1♀; Zipacón, Jan. 1, 2011, *Eucalyptus* litter, elev. 2550 m (D. Luna, ICN 6488, PBI_OON 40766), 1♂, 1♀.

DISTRIBUTION: Central Colombia, at elevations from 2850–3350 m.

Aschnaoonops propinquus (Keyserling), new combination
Figures 335–345

Oonops propinquus Keyserling, 1881: 298, pl. 11, fig. 18 (male holotype from Colombia, as "Neu-Granada," in BMNH; examined).
Dysderina propinqua: Simon, 1893a: 304.



Figs. 324–334. *Aschnaoonops similis* (Keyserling), male (324, 327–332) and female (325, 326, 333, 334). **324.** Sternum and mouthparts, ventral view. **325.** Abdomen, ventral view. **326, 333.** Genitalia, ventral view. **327.** Left palp, prolateral view. **328.** Same, ventral view. **329.** Same, retrolateral view. **330.** Left embolus, prolateral view. **331.** Same, ventral view. **332.** Same, retrolateral view. **334.** Genitalia, dorsal view.

NOTE: Unfortunately, the holotype is missing both palps, and Keyserling's illustration is not very informative. We suspect that, like the holotypes of the other two species Keyserling described from Colombia, *A. similis* and *Paradysderina globosa* (Keyserling), it was collected in some montane area near Bogotá. The sternal sculpturing of the holotype (fig. 335) is a good match to those of the specimens here assigned to the species.

DIAGNOSIS: Males can easily be recognized by the leaf-shaped embolus, which is deeply excavated on both its ventral/retrolateral and dorsal/prolateral surfaces (figs. 341–343), females by the pair of transverse sclerites situated anterior and posterior of the wide sclerite at the base of the anterior genitalic process (fig. 345).

MALE (PBI_OON 854, figs. 335, 338–343): Total length 2.52. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with distal prong long, lateral surface of endite concave. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-1r-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus elaborate, with proximal prong fitting inside basal excavation of distal prong, distal prong laterally flattened, with relatively broad tip.

FEMALE (PBI_OON 857, figs. 336, 337, 344, 345): Total length 3.21. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, extending to about 2/3 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r1-1-0; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process with ventrally concave distal expansion, accompanied basally by two wide sclerites.

OTHER MATERIAL EXAMINED: **Colombia:** no specific locality (BMNH PBI_OON 850), 1♂ (holotype). *Boyacá:* Lagunillas, Santuario de Flora y Fauna de Iguaque, 5°25′N, 73°27′W, Feb. 9–24, 2001, Winkler trap, elev. 3380 m (G. Oliva, IAVH 108100, PBI_OON 856), 1♂; Quebrada Carrizal, Santuario de Flora y Fauna de Iguaque, 5°25′N, 73°27′W, Nov. 18–20, 2000, Winkler trap, elev. 3350 m (P. Reina, IAVH 108094, PBI_OON 854), 1♂; Quebrada Los Francos, Santuario de Flora y Fauna de Iguaque, 5°25′N, 73°27′W, Feb. 7–9, 2001, pitfall trap, elev. 2860 m (G. Oliva, IAVH 108095, PBI_OON 857), 1♀; Sutamarchán, Serranía Merchán, 5°45′01″N, 73°40′02″W, Apr. 7–9, 2003, Winkler traps, secondary forest, elev. 3220 m (E. González, C. Reina, IAVH 108117, 108124, PBI_OON 852, 853), 1♂, 2♀. *Cundinamarca:* Páramo de Monserrate, Bogotá, Apr.–Nov. 1968, pitfall (H. Sturm, AMNH PBI_OON 851), 1♂.

DISTRIBUTION: Central Colombia (Boyacá, Cundinamarca), at elevations from 2860–3380 m.

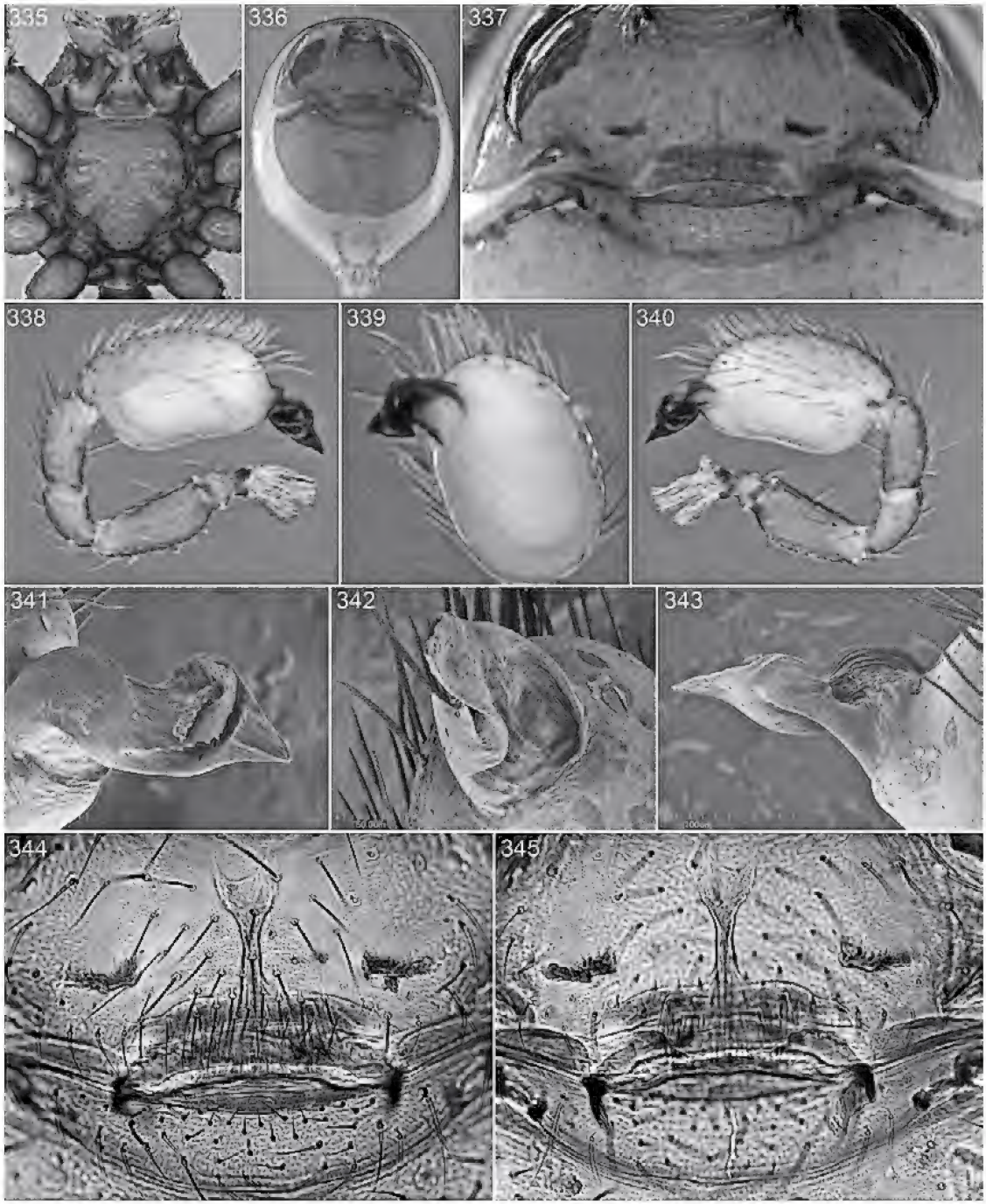
Aschnaoonops alban, new species
Figures 346–356

TYPE: Male holotype from Finca San Pablo, 3 km north of Alban, Cundinamarca, Colombia (Aug. 1–12, 1967; P., B. Wygodzinsky), deposited in AMNH (PBI_OON 109).

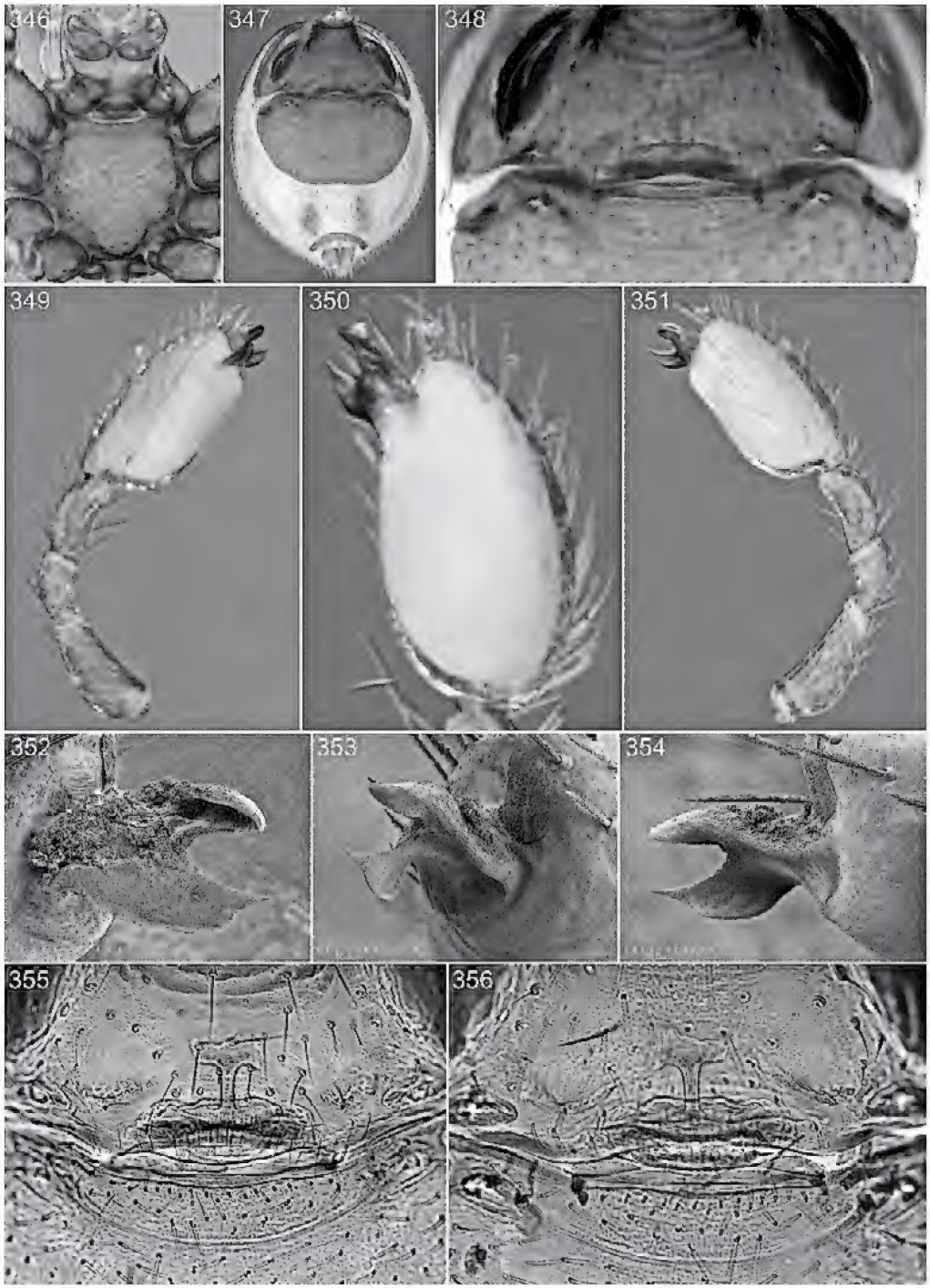
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *A. huila* but have a less angular embolar base, especially in retrolateral view (figs. 352–354); females have a longer sclerite at the base of the anterior genitalic process (fig. 356).

MALE (PBI_OON 109, figs. 346, 349–354): Total length 2.02. ALE separated by less than their radius. Sternum surface finely reticulate, microsculpture everywhere but front. Endites with distal projection relatively short, wide. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femur I p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v1p-1r-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus with proximal and distal prongs forming shape like open claw.



Figs. 335–345. *Aschnaoonops propinquus* (Keyserling), male (335, 338–343) and female (336, 337, 344, 345). **335.** Sternum and mouthparts, ventral view. **336.** Abdomen, ventral view. **337, 344.** Genitalia, ventral view. **338.** Left palp, prolateral view. **339.** Same, ventral view. **340.** Same, retrolateral view. **341.** Left embolus, prolateral view. **342.** Same, ventral view. **343.** Same, retrolateral view. **345.** Genitalia, dorsal view.



Figs. 346–356. *Aschnaoonops alban*, new species, male (346, 349–354) and female (347, 348, 355, 356). **346.** Sternum and mouthparts, ventral view. **347.** Abdomen, ventral view. **348, 355.** Genitalia, ventral view. **349.** Left palp, prolateral view. **350.** Same, ventral view. **351.** Same, retrolateral view. **352.** Left embolus, prolateral view. **353.** Same, ventral view. **354.** Same, retrolateral view. **356.** Genitalia, dorsal view.

FEMALE (PBI_OON 858, figs. 347, 348, 355, 356): Total length 2.39. Postepigastric scutum almost semicircular, covering about 1/2 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v1p-2-2. Anterior genitalic process with wide, rectangular distal expansion.

OTHER MATERIAL EXAMINED: **Colombia:** *Cundinamarca:* Granjas del Padre Luna, Municipio Alban, Oct. 18, 2001, elev. 2200 m (A. Gomez, ICN PBI_OON 858), 1♀.

DISTRIBUTION: Colombia (Cundinamarca).

Aschnaoonops chingaza, new species
Figures 357–367

TYPE: Male holotype from Winkler sample of forest litter taken at an elevation of 2930 m at La Calera, Parque Nacional Natural Chingaza, 4°41′24″N, 73°51′21″W, Cundinamarca, Colombia (Nov. 18–20, 2003; E. González), deposited in IAVH (108165, PBI_OON 859).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males have a dorsoventrally constricted embolus base, especially in retrolateral view (figs. 363–365); females have a long, rocket-shaped anterior genitalic process (fig. 367).

MALE (PBI_OON 859, figs. 357, 360–365): Total length 2.88. ALE separated by their radius to diameter. Sternum surface smooth, microsculpture only at sides. Endites with distal projection relatively short, narrow. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-1-1, r1-1-0; II p0-0-2, r1-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus highly twisted, almost corkscrew shaped.

FEMALE (PBI_OON 860, figs. 358, 359, 366, 367): Total length 3.47. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, extending to about 1/2 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process rocket shaped, with triangular base.

OTHER MATERIAL EXAMINED: **Colombia:** *Cundinamarca:* La Calera, Parque Nacional Natural Chingaza, 4°41′24″N, 73°51′21″W, Nov. 19–21, 2003, dung trap, elev. 2930 m (E. González, IAVH108172, PBI_OON 860), 1♀.

DISTRIBUTION: Colombia (Cundinamarca).

Aschnaoonops pamplona, new species
Figures 368–378

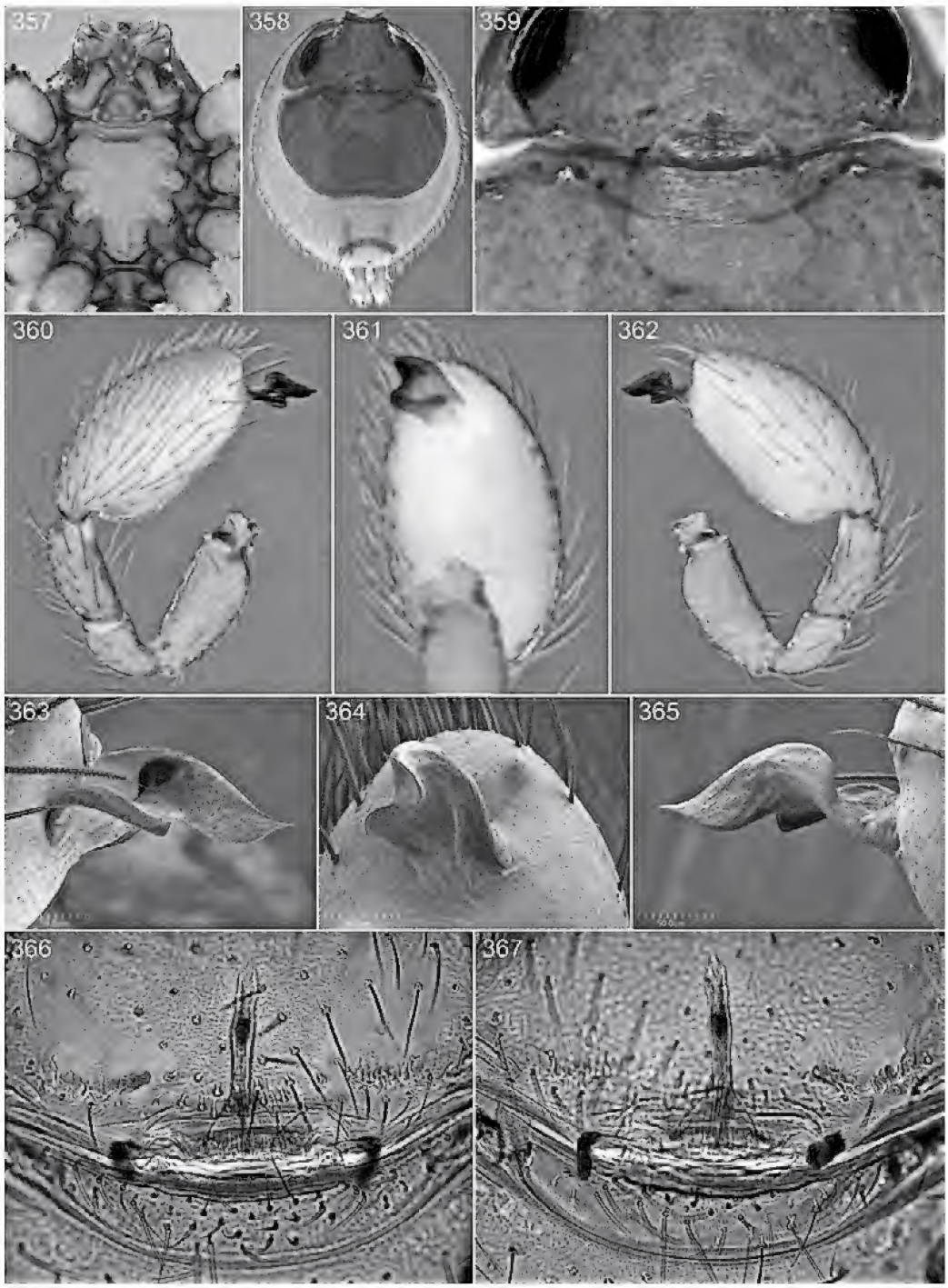
TYPE: Male holotype taken in a dung trap at an elevation of 2150 m in a high Andean forest at the Estación Experimental y Demostrativa El Rasgón, Piedecuesta, 7°03′N, 72°57′W, Santander, Colombia (Sept. 21–23, 2004; I. Quintero, E. González), deposited in IAVH (108136, PBI_OON 868).

ETYMOLOGY: The specific name is a noun in apposition taken from one of the localities at which the species has been collected.

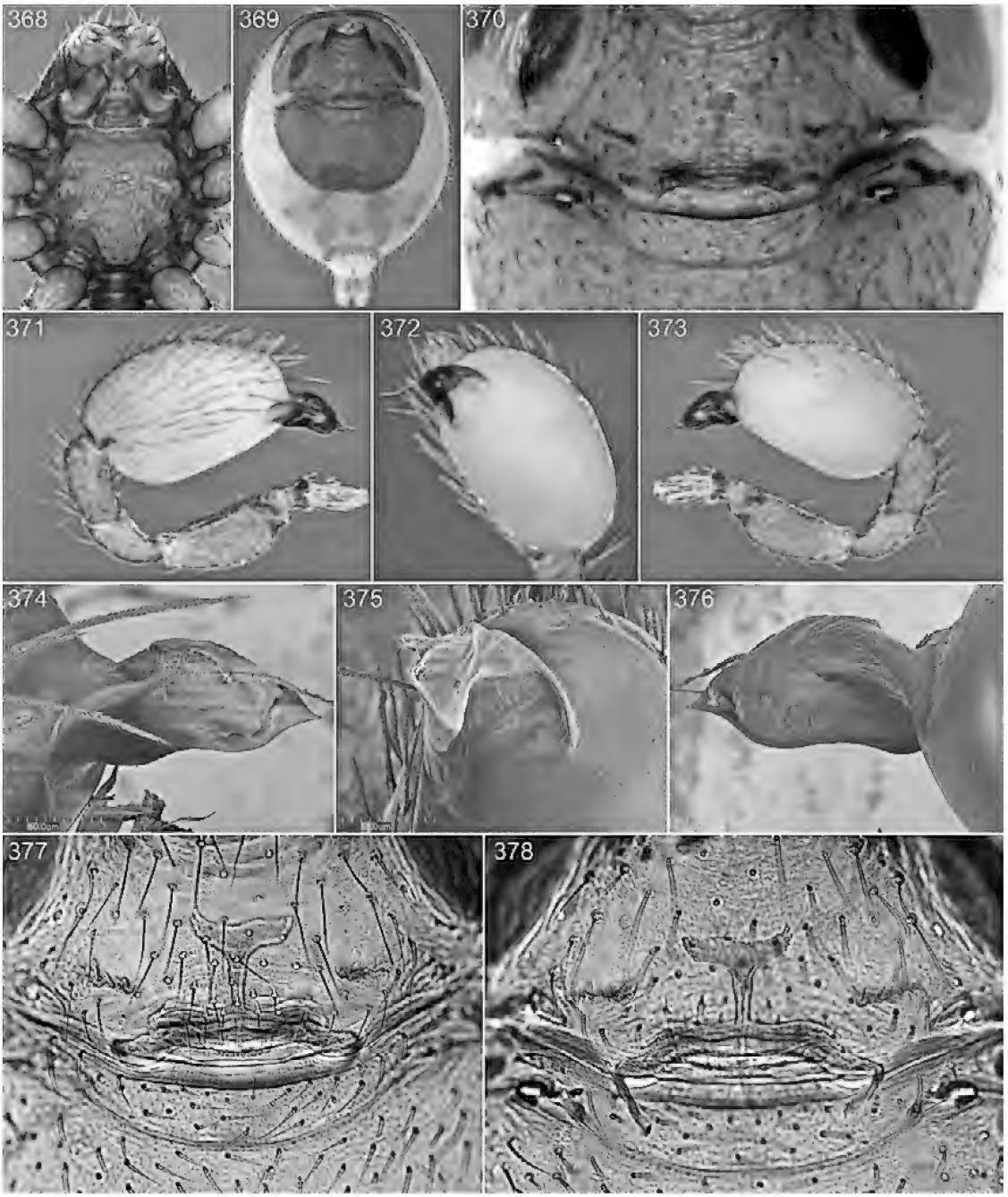
DIAGNOSIS: Males have an embolus that resembles that of *A. propinquus* but is not distally invaginated and has a longer tip (figs. 374–376); females have a much wider expansion at the tip of the anterior genitalic process (fig. 378).

MALE (PBI_OON 868, figs. 368, 371–376): Total length 2.00. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process relatively long, narrow. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-1; tibiae: I v4-4-2; II v4-4-0; metatarsi: I v2-2-1p; II v2-2-0. Sperm pore large, narrow, slitlike. Cymbium without distal patch of setae. Embolus deeply excavated on prolateral side.

FEMALE (PBI_OON 863, figs. 369, 370, 377, 378): Total length 2.58. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg



Figs. 357–367. *Aschnaoonops chingaza*, new species, male (357, 360–365) and female (358, 359, 366, 367). **357.** Sternum and mouthparts, ventral view. **358.** Abdomen, ventral view. **359, 366.** Genitalia, ventral view. **360.** Left palp, prolateral view. **361.** Same, ventral view. **362.** Same, retrolateral view. **363.** Left embolus, prolateral view. **364.** Same, ventral view. **365.** Same, retrolateral view. **367.** Genitalia, dorsal view.



Figs. 368–378. *Aschnaoonops pamplona*, new species, male (368, 371–376) and female (369, 370, 377, 378). **368.** Sternum and mouthparts, ventral view. **369.** Abdomen, ventral view. **370, 377.** Genitalia, ventral view. **371.** Left palp, prolateral view. **372.** Same, ventral view. **373.** Same, retrolateral view. **374.** Left embolus, prolateral view. **375.** Same, ventral view. **376.** Same, retrolateral view. **378.** Genitalia, dorsal view.

spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-1p; II v3-2-0. Anterior genitalic process with short but very wide anterior expansion.

OTHER MATERIAL EXAMINED: **Colombia:** *Norte de Santander:* above Pamplona, May 9–13, 1974, elev. above 9000 ft (S. Peck, MCZ PBI_OON 38079), 1♀. *Santander:* Magdalena Valley, Carare-Opón region, Capote rain forest, July 28–Aug. 4, 1968, humus, elev. 150 m (H. Sturm, MCZ 72938, PBI_OON 37004), 1♂; Estación Experimental y Demostrativa El Rasgón, Piedecuesta, 7°03′N, 72°57′W, Sept. 21–23, 2004, Winkler, dung traps, high Andean forest, elev. 2150 m (I. Quintero, E. González, IAVH 108127, 108129–108131, 108134, 108138, ex 108140, PBI_OON 861–867), 4♂, 5♀.

DISTRIBUTION: Colombia (Santander, Norte de Santander).

Aschnaoonops pedro, new species
Figures 379–389

TYPE: Male holotype and female allotype taken from epiphytic bromeliads or leaf litter at an elevation of 960 m at San Pedro, Sierra Nevada de Santa Marta, Magdalena, Colombia (May 19, 1975; J. Kochalka), deposited in AMNH (PBI_OON 10073).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *A. propinquus* but have a shorter, less twisted embolus bearing a long, prolateral spur (figs. 385–387); females have a large, tree-shaped anterior expansion on the anterior genitalic process (fig. 389).

MALE (PBI_OON 37109, figs. 379, 382–387): Total length 2.11. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process basally wide. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r1-0-0; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-2-0. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus with proximal prong shifted to retrolateral side of bulb, distal prong with short, sharp, proximal protrusion.

FEMALE (PBI_OON 37109, figs. 380, 381, 388, 389): Total length 2.39. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-2-0. Anterior genitalic process with tree-shaped anterior expansion.

OTHER MATERIAL EXAMINED: **Colombia:** *Magdalena:* Cerro Lagila, Sierra Nevada de Santa Marta, Apr. 15–30, 1975, pitfall, elev. 1540 m (J. Kochalka, AMNH PBI_OON 37108), 1♂; trail, Río Frío, Sierra Nevada de Santa Marta, Apr. 23, 1975, elev. 535 m (J. Kochalka, AMNH PBI_OON 37110), 2♀; San Pedro, Sierra Nevada de Santa Marta, May 19, 1975, epiphytic bromeliads and/or leaf litter, elev. 960 m (J. Kochalka, AMNH PBI_OON 37109), 7♂, 3♀; 2 km NW San Pedro, 10°55′N, 74°03′W, Aug. 16, 1985, elev. 1200 m (FMNH 56549, PBI_OON 10767), 1♂, 1♀; near San Pedro de la Sierra, northwestern Sierra Nevada de Santa Marta, Apr. 12, 1986, litter, elev. 1000 m (H.-G. Müller, MHNG PBI_OON 897), 2♂.

DISTRIBUTION: Colombia (Magdalena).

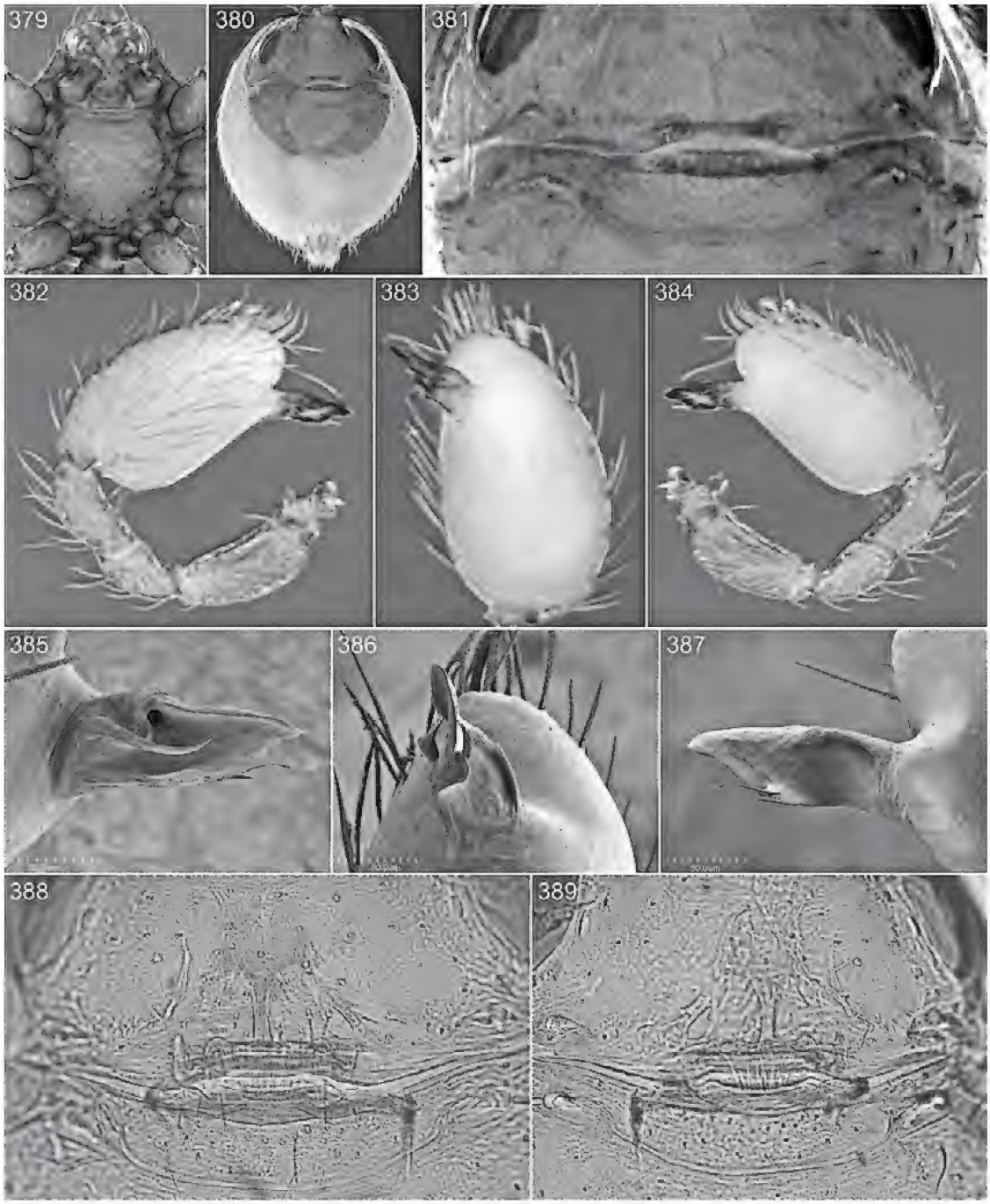
Aschnaoonops marta, new species
Figures 390–399

TYPE: Male holotype taken from epiphytic bromeliads or leaf litter at an elevation of 960 m at San Pedro, Sierra Nevada de Santa Marta, Magdalena, Colombia (May 19, 1975; J. Kochalka), deposited in AMNH (PBI_OON 37106).

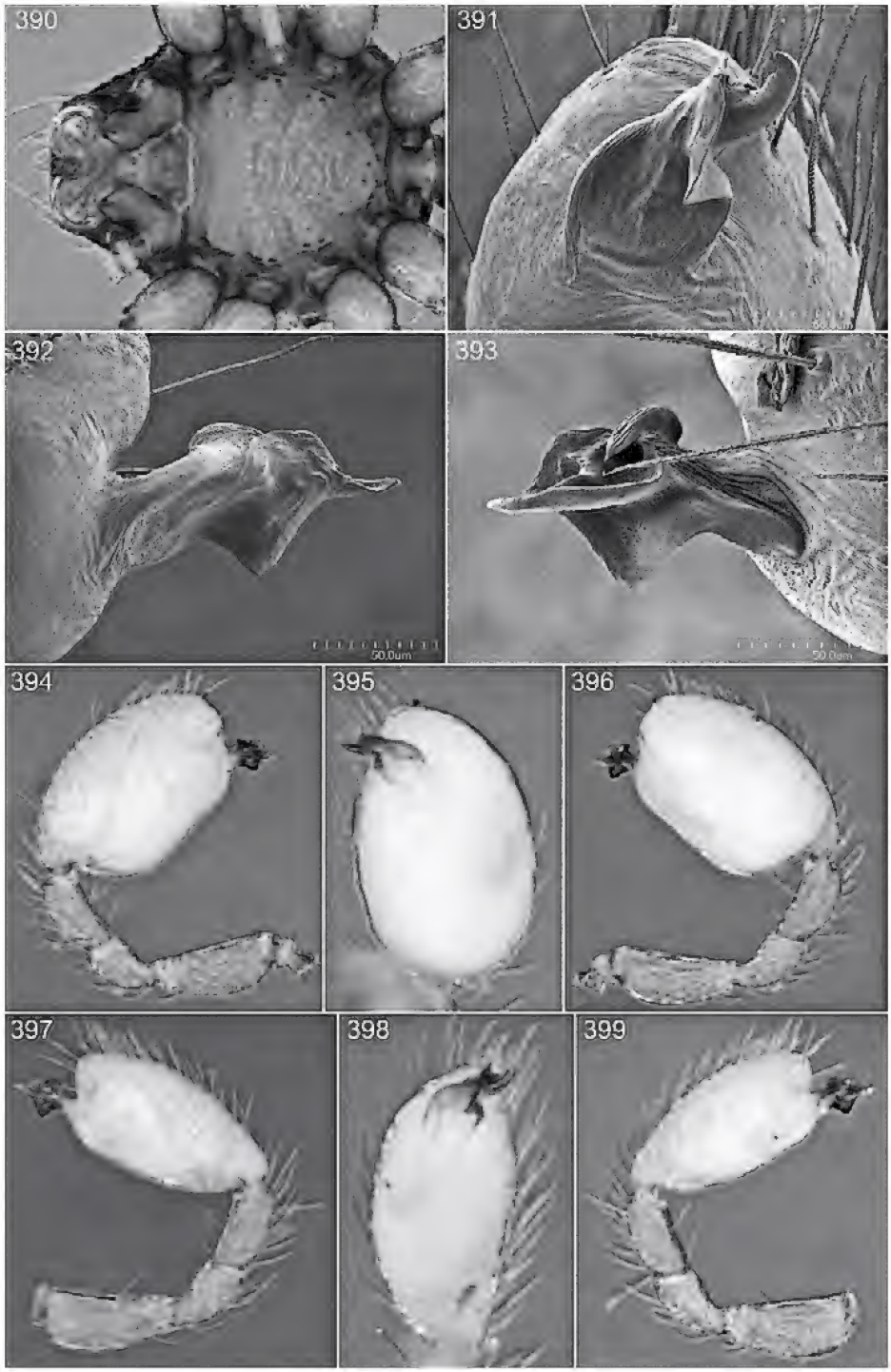
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *A. pedro* but have a subdistally wider embolus. The two known males show differences between the right and left sides; the right bulb is much less inflated than the left (figs. 394–399), and there are slight but consistent differences in the shapes of the right and left emboli as well.

MALE (PBI_OON 37106, figs. 390–399): Total length 2.06. ALE separated by less than



Figs. 379–389. *Aschnaoonops pedro*, new species, male (379, 382–387) and female (380, 381, 388, 389). **379.** Sternum and mouthparts, ventral view. **380.** Abdomen, ventral view. **381, 388.** Genitalia, ventral view. **382.** Left palp, prolateral view. **383.** Same, ventral view. **384.** Same, retrolateral view. **385.** Left embolus, prolateral view. **386.** Same, ventral view. **387.** Same, retrolateral view. **389.** Genitalia, dorsal view.



Figs. 390–399. *Aschnaoonops marta*, new species, male. **390.** Sternum and mouthparts, ventral view. **391.** Right embolus, ventral view. **392.** Same, prolateral view. **393.** Same, retrolateral view. **394.** Left palp, prolateral view. **395.** Same, ventral view. **396.** Same, retrolateral view. **397.** Right palp, prolateral view. **398.** Same, ventral view. **399.** Same, retrolateral view.

their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process long, narrow. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r0-1-0; tibiae: I v4-4-2; II v3-4-1p; metatarsi: I v3-2-0; II v2-1r-0. Sperm pore large, narrow, slitlike. Cymbium with distal patch of setae. Embolus arrow shaped in lateral view, right bulb much less inflated than left bulb.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: **Colombia:** *Magdalena:* near San Pedro de la Sierra, northwestern Sierra Nevada de Santa Marta, Aug. 16, 1985, under bark and rocks, elev. 500–1000 m (H.-G. Müller, MHNG PBI_OON 15708), 1♂.

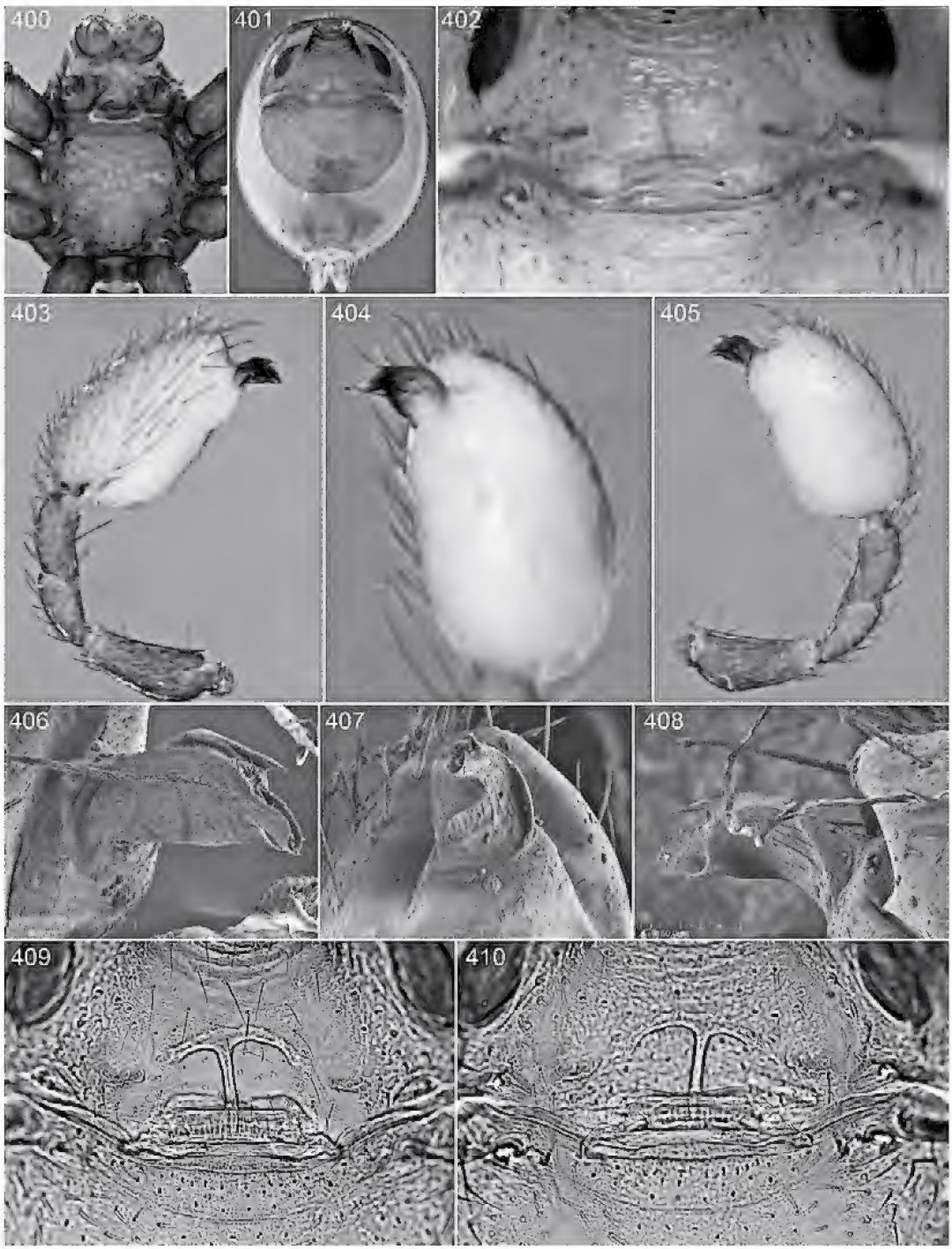
DISTRIBUTION: Colombia (Magdalena).

KEY TO SPECIES FROM VENEZUELA

1. Males (those of *A. simoni* unknown) 2
– Females (those of *A. aquada* and *A. masneri* unknown) 14
2. Embolus complex, with numerous processes, accompanied by triangular projection on cymbium (as in figs. 440, 441) 3
– Embolus simpler, cymbium without projection 9
3. Embolus with blunt tip (figs. 503, 504) *trujillo*
– Embolus with sharp tip 4
4. Embolus relatively short (figs. 490, 492) . . . . *masneri*
– Embolus longer 5
5. Embolus with broad subdistal process (fig. 474) . . . . . *merida*
– Embolus otherwise 6
6. Embolus with three processes (figs. 439, 441) . . . . . *tariba*
– Embolus with four processes 7
7. Embolus with broad distal process (fig. 430) . . . . . *tachira*
– Embolus otherwise 8
8. Dorsalmost process of embolus sharply bent (fig. 452) . . . . . *teleferico*
– Dorsalmost process of embolus not sharply bent (fig. 480) . . . . . *aquada*
9. Cymbium deeply invaginated at base of embolus (fig. 537) . . . . . *margaretae*
– Cymbium not deeply invaginated 10
10. Prolateral surface of embolus with numerous narrow processes (figs. 417, 524) 11
– No such narrow processes 12
11. Dorsal prong of embolus with narrow subdistal spur (fig. 417) . . . . . *indio*
– Dorsal prong of embolus without subdistal spur (fig. 524) . . . . . *bocono*
12. Embolus terminating in three sharp, parallel prongs (fig. 408) . . . . . *chorro*
– Embolus otherwise 13
13. Median process on embolus much larger than dorsal and ventral processes (fig. 515) . . . . . *cristalina*
– Median process on embolus smaller (fig. 463) . . . . . *jaji*
14. Anterior genitalic process with distinct anterior expansion (as in fig. 410) 15
– Anterior genitalic process without such an expansion (as in fig. 421) 20
15. Anterior expansion T-shaped or Y-shaped . . . 16
– Anterior expansion otherwise 18
16. Anterior expansion Y-shaped (fig. 539) . . . . *margaretae*
– Anterior expansion T-shaped 17
17. Anterior expansion relatively wide (fig. 410) . . . . . *chorro*
– Anterior expansion relatively narrow (fig. 432) . . . . . *tachira*
18. Anterior expansion nearly round (fig. 495) . . . . . *simoni*
– Anterior expansion angular 19
19. Anterior expansion conifer shaped (fig. 517) . . . . . *cristalina*
– Anterior expansion with posterolateral extensions (fig. 465) . . . . . *jaji*
20. Anterior genitalic process long (figs. 443, 506, 528) 21
– Anterior genitalic process short (figs. 421, 454, 476) 23
21. Anterior genitalic process narrow throughout its length (fig. 528) . . . . . *bocono*
– Anterior genitalic process otherwise 22
22. Anterior genitalic process much longer than basal sclerite (fig. 443) . . . . . *tariba*
– Anterior genitalic process not much longer than basal sclerite (fig. 506) . . . . . *trujillo*
23. Median sclerite semicircular (fig. 421) . . . *indio*
– Median sclerite otherwise 24
24. Anterior genitalic process slightly widened at tip (fig. 454) . . . . . *teleferico*
– Anterior genitalic process not widened (fig. 476) . . . . . *merida*

Aschnaoonops chorro, new species
Figures 400–410

TYPES: Male holotype, female allotype, and one female and two male paratypes



Figs. 400–410. *Aschnaoonops chorro*, new species, male (400, 403–408) and female (401, 402, 409, 410). **400.** Sternum and mouthparts, ventral view. **401.** Abdomen, ventral view. **402, 409.** Genitalia, ventral view. **403.** Left palp, prolateral view. **404.** Same, ventral view. **405.** Same, retrolateral view. **406.** Left embolus, prolateral view. **407.** Same, ventral view. **408.** Same, retrolateral view. **410.** Genitalia, dorsal view.

taken from cloud forest litter at an elevation of 1400 m at a site 8 km northeast of San Cristóbal in the Parque Nacional Chorro El Indio, 7°44′15″N, 72°11′37″W, Táchira, Venezuela (May 29, 1998; R. Anderson), deposited in AMNH (PBI_OON 869).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *A. propinquus* but have a V-shaped embolar tip (figs. 406–408); females have a T-shaped anterior genitalic process with recurved tips (fig. 410).

MALE (PBI_OON 870, figs. 400, 403–408): Total length 2.17. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Anterior process of endites relatively long, sharply pointed. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femur I p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-0; metatarsi: I v2-2-1p; II v2-2-0. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus relatively short, wide, distally with three parallel prongs.

FEMALE (PBI_OON 869, figs. 401, 402, 409, 410): Total length 2.33. Dorsal scutum covering 1/2 to 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-1p; II v3-2-0. Distal expansion on anterior genitalic process greatly widened, T-shaped, recurved.

OTHER MATERIAL EXAMINED: **Venezuela:** *Táchira:* 10 km NE San Cristóbal, Parque Nacional Chorro El Indio, 7°43′46″N, 72°12′17″W, May 29, 1998, upper montane forest litter, elev. 1300 m (R. Anderson, AMNH PBI_OON 870), 4♂.

DISTRIBUTION: Venezuela (Táchira).

Aschnaoonops indio, new species
Figures 411–421

TYPE: Male holotype taken from cloud forest litter at an elevation of 1400 m at a site 8 km northeast of San Cristóbal in the Parque Nacional Chorro El Indio, 7°44′15″N, 72°11′37″W, Táchira, Venezuela (May 28, 1998; R. Anderson), deposited in AMNH (PBI_OON 871).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

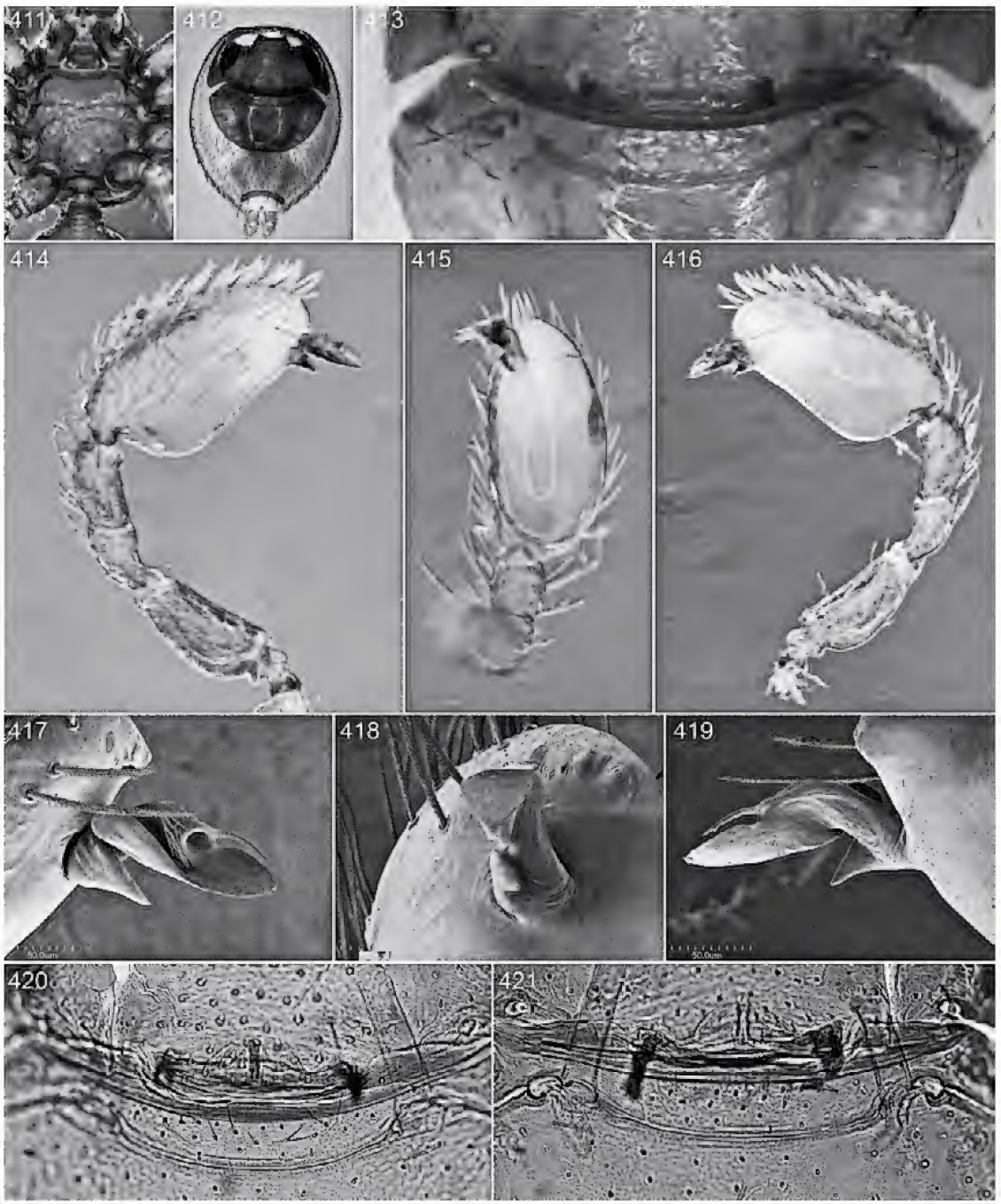
DIAGNOSIS: Although sympatric with *A. chorro*, males of this species can easily be recognized by the triangular proximal prong on the embolus (figs. 417–419); females have relatively short apodemes forming sclerotized triangles at the sides of the atrial area and a short anterior genitalic process that barely extends beyond the basal sclerite (figs. 420, 421).

MALE (PBI_OON 34, figs. 411, 414–419): Total length 2.18. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process relatively short, narrow. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-0; II p0-0-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v1p-2-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus with proximal prong sharply pointed, narrower than distal prong.

FEMALE (PBI_OON 877, figs. 412, 413, 420, 421): Total length 2.52. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora: I p0-1-2, r1-1-1; II p0-0-2, r2-1-0; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process short, about as long as semicircular sclerite at its base.

OTHER MATERIAL EXAMINED: **Venezuela:** *Mérida:* Finca Fundo La Trinidad, 34 km NW Mérida, 8°37′00″N, 71°29′12″W, May 22, 1998, montane forest litter, elev. 2350 m (R. Anderson, AMNH PBI_OON 877), 4♂, 9♀; Universidad de Los Andes Biol. Res. La Carbonnera, 20 km SE Azulita, June 28–July 27, 1989, podocarp forest litter, elev. 2300 m (S., J. Peck, AMNH PBI_OON 34, 46), 2♂.

DISTRIBUTION: Venezuela (Táchira, Mérida).



Figs. 411–421. *Aschnaoonops indio*, new species, male (411, 414–419) and female (412, 413, 420, 421). **411.** Sternum and mouthparts, ventral view. **412.** Abdomen, ventral view. **413, 420.** Genitalia, ventral view. **414.** Left palp, prolateral view. **415.** Same, ventral view. **416.** Same, retrolateral view. **417.** Left embolus, prolateral view. **418.** Same, ventral view. **419.** Same, retrolateral view. **421.** Genitalia, dorsal view.

Aschnaoonops tachira, new species
Figures 422–432

TYPE: Male holotype taken from shrub litter at an elevation of 2910 m at the Páramo La Negra, 15 km southeast of Pueblo Hondo, 8°14′50″N, 71°52′31″W, Táchira, Venezuela (May 27, 1998; R. Anderson), deposited in AMNH (PBI_OON 872).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the shape of multiple embolar projections (figs. 428–430). The females here assigned to the species have not been collected together with males, and may be mismatched; they resemble those of *A. chorro* but have a differently shaped extension on the anterior genitalic process and a sinuous anterior margin of the sclerite at the base of that process (figs. 431, 432).

MALE (PBI_OON 872, figs. 422, 425–430): Total length 2.31. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with tip of anterior process directed anterolaterally. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v2-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Distal prong of embolus with three processes.

FEMALE (PBI_OON 38041, figs. 423, 424, 431, 432): Total length 3.12. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2; r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process with spade-shaped anterior extension, sclerite at base with medially invaginated anterior margin.

OTHER MATERIAL EXAMINED: **Venezuela:** *Táchira:* Páramo El Zumbador, 40.3 km NE Táriba, 7°58′20″N, 72°05′15″W, May 30, 1998, elfin forest litter, elev. 2420 m (R. Anderson, AMNH PBI_OON 876), 1♀; Páramo La Negra, 15 km SE Pueblo Hondo, 8°14′50″N, 71°52′31″W, May 27, 1998, shrub litter, elev. 2910 m (R. Anderson, AMNH PBI_OON 873), 1♂; 55 km N San Cristóbal, May 18–22, 1974, elev. 10,000 ft (S. Peck, AMNH_PBI 38041), 1♀.

DISTRIBUTION: Venezuela (Táchira).

Aschnaoonops tariba, new species
Figures 433–443

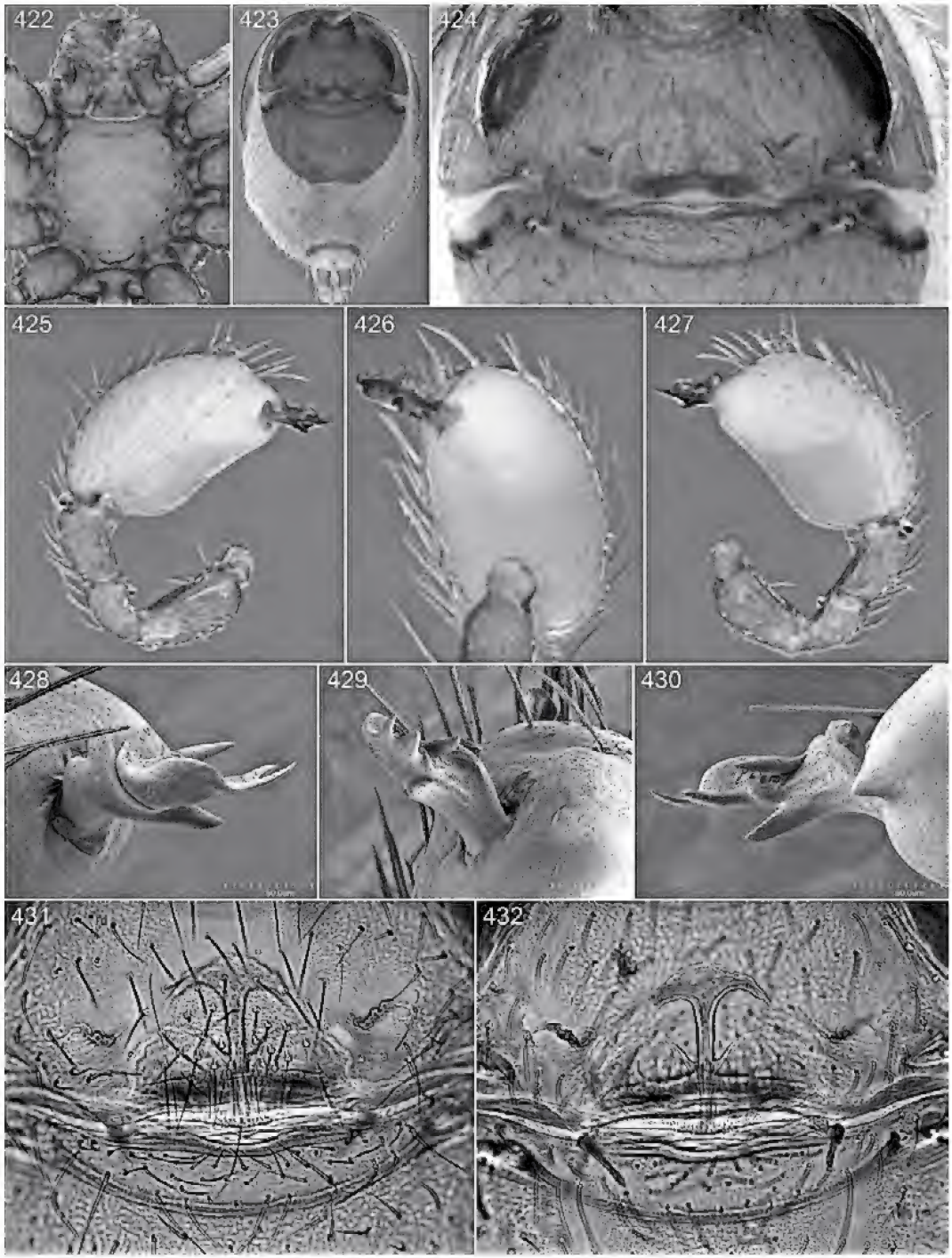
TYPES: Male holotype and female allotype from elfin forest litter taken at an elevation of 2420 m on the Páramo El Zumbador, 40.3 km NE Táriba, 7°58′20″N, 72°05′15″W, Táchira, Venezuela (May 30, 1998; R. Anderson), deposited in AMNH (PBI_OON 874).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

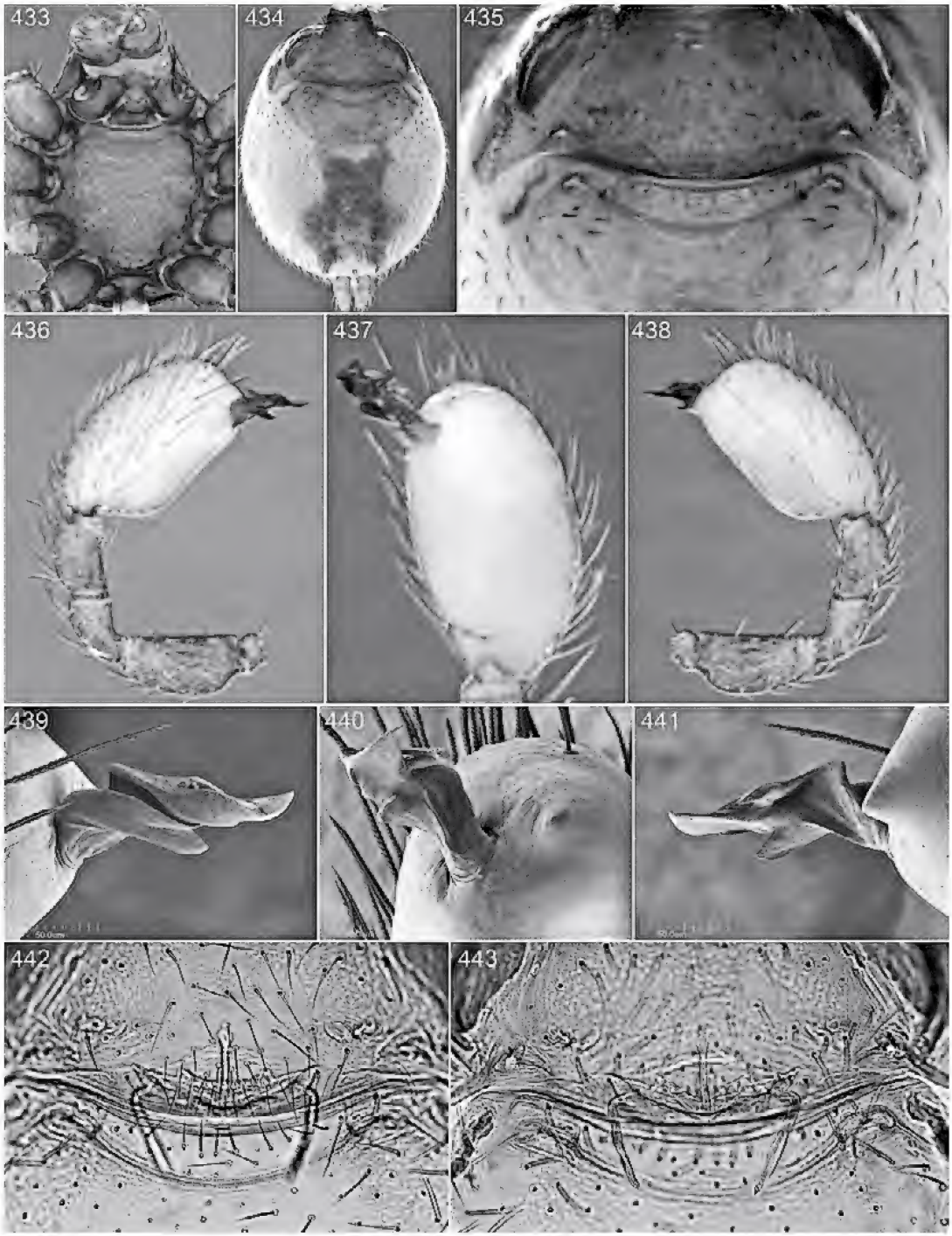
DIAGNOSIS: Males can easily be recognized by the F-shaped embolus (figs. 439–441); females have a long, narrow anterior genitalic process and triangular protrusions on the transverse sclerite connecting the apodemes (fig. 443).

MALE (PBI_OON 875, figs. 433, 436–441): Total length 2.14. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process relatively short, with anterolaterally directed tip. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-0; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi I, II v2-2-1p. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus, in retrolateral view, with proximal and distal prongs parallel.

FEMALE (PBI_OON 875, figs. 434, 435, 442, 443): Total length 2.41. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-2-0. Anterior genitalic process long, narrow, without distal expansion, with slight, subdistal widening.



Figs. 422–432. *Aschnaoonops tachira*, new species, male (422, 425–430) and female (423, 424, 431, 432). **422.** Sternum and mouthparts, ventral view. **423.** Abdomen, ventral view. **424, 431.** Genitalia, ventral view. **425.** Left palp, prolateral view. **426.** Same, ventral view. **427.** Same, retrolateral view. **428.** Left embolus, prolateral view. **429.** Same, ventral view. **430.** Same, retrolateral view. **432.** Genitalia, dorsal view.



Figs. 433–443. *Aschnaoonops tariba*, new species, male (433, 436–441) and female (434, 435, 442, 443). **433.** Sternum and mouthparts, ventral view. **434.** Abdomen, ventral view. **435, 442.** Genitalia, ventral view. **436.** Left palp, prolateral view. **437.** Same, ventral view. **438.** Same, retrolateral view. **439.** Left embolus, prolateral view. **440.** Same, ventral view. **441.** Same, retrolateral view. **443.** Genitalia, dorsal view.

OTHER MATERIAL EXAMINED: Four males and four females taken with the types (AMNH PBI_OON 875).

DISTRIBUTION: Venezuela (Táchira).

Aschnaoonops teleferico, new species
Figures 444–454

TYPE: Male holotype taken in a flight intercept trap in cloud forest litter at an elevation of 2450 m at the La Montaña cable car (Teleférico) station in Mérida, Mérida, Venezuela (June 27–July 26, 1989; S., J. Peck), deposited in AMNH (PBI_OON 23).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by having the embolus cross shaped in retrolateral view (fig. 452), females by the short anterior genitalic process and irregularly oval basal sclerite (fig. 454).

MALE (PBI_OON 900, figs. 444, 447–452): Total length 2.37. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process short, narrow. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-2-0. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus with distal prong bearing short, acutely bent projection.

FEMALE (PBI_OON 900, figs. 445, 446, 453, 454): Total length 2.66. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2;,r1-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process short, without distal enlargement, surrounded by basal sclerite for about 2/3 its length.

OTHER MATERIAL EXAMINED: **Venezuela:** *Mérida:* Estación Teleférico La Montaña, Mérida, Feb. 23–25, 1968, elev. 2440 m (P., B. Wygodzinsky, M. Cormons, AMNH PBI_OON 31137), 1♀, June 27, 1989, cloud forest litter, elev. 2440 m (S., J. Peck, AMNH PBI_OON 47), 2♂, June 27–July 26, 1989, cloud forest, flight intercept trap, elev. 2450 m (S., J. Peck, AMNH PBI_OON 33), 1♂, July 26, 1989, cloud forest litter, elev. 2450 m (S., J. Peck, AMNH PBI_OON 43), 1♂; La Mucuy, 7 km E Tabay, Parque Nacional Sierra Nevada, 8°37′35″N, 71°02′01″W, May 24, 1998, cloud forest litter, elev. 2450 m (R. Anderson, AMNH PBI_OON 899, 900), 6♂, 2♀, 8°37′41″N, 71°01′46″W, May 24, 1998, cloud/bamboo forest litter, elev. 2520 m (R. Anderson, AMNH PBI_OON 898), 2♂, 8°37′44″N, 71°02′26″W, May 24, 1998, upper montane forest litter, elev. 2340 m (R. Anderson, AMNH PBI_OON 901), 10♂, 4♀; trail to Monte Cerpa, N Mérida, Mar. 29, 1992, litter on moist bank, litter near stream, elev. 8300 ft (L. Herman, AMNH PBI_OON 16, 24), 2♂, litter near stream, elev. 7400 ft (L. Herman, AMNH PBI_OON 40), 1♀; Sendero Truchicola, Mucuy, Tabay, June 17–July 3, 1989, cloud forest, flight intercept trap, elev. 2300 m (S., J. Peck, AMNH PBI_OON 38), 1♂.

DISTRIBUTION: Venezuela (Mérida).

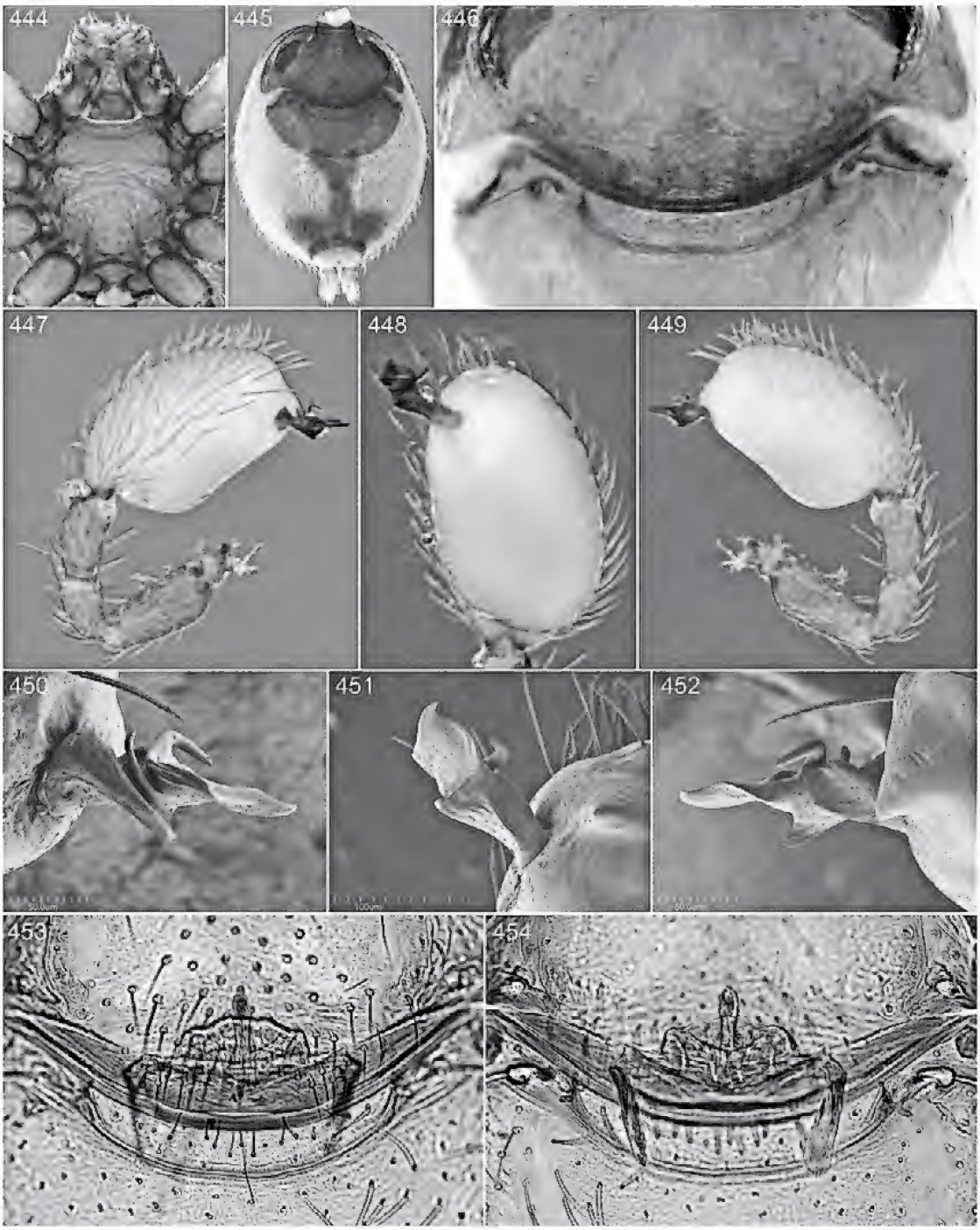
Aschnaoonops jaji, new species
Figures 455–465

TYPES: Male holotype and female allotype from litter near stream taken at an elevation of 5600–5900 ft near La Chorrera on the road to Jají, Mérida, Venezuela (Mar. 28, 1992; L. Herman), deposited in AMNH (PBI_OON 141).

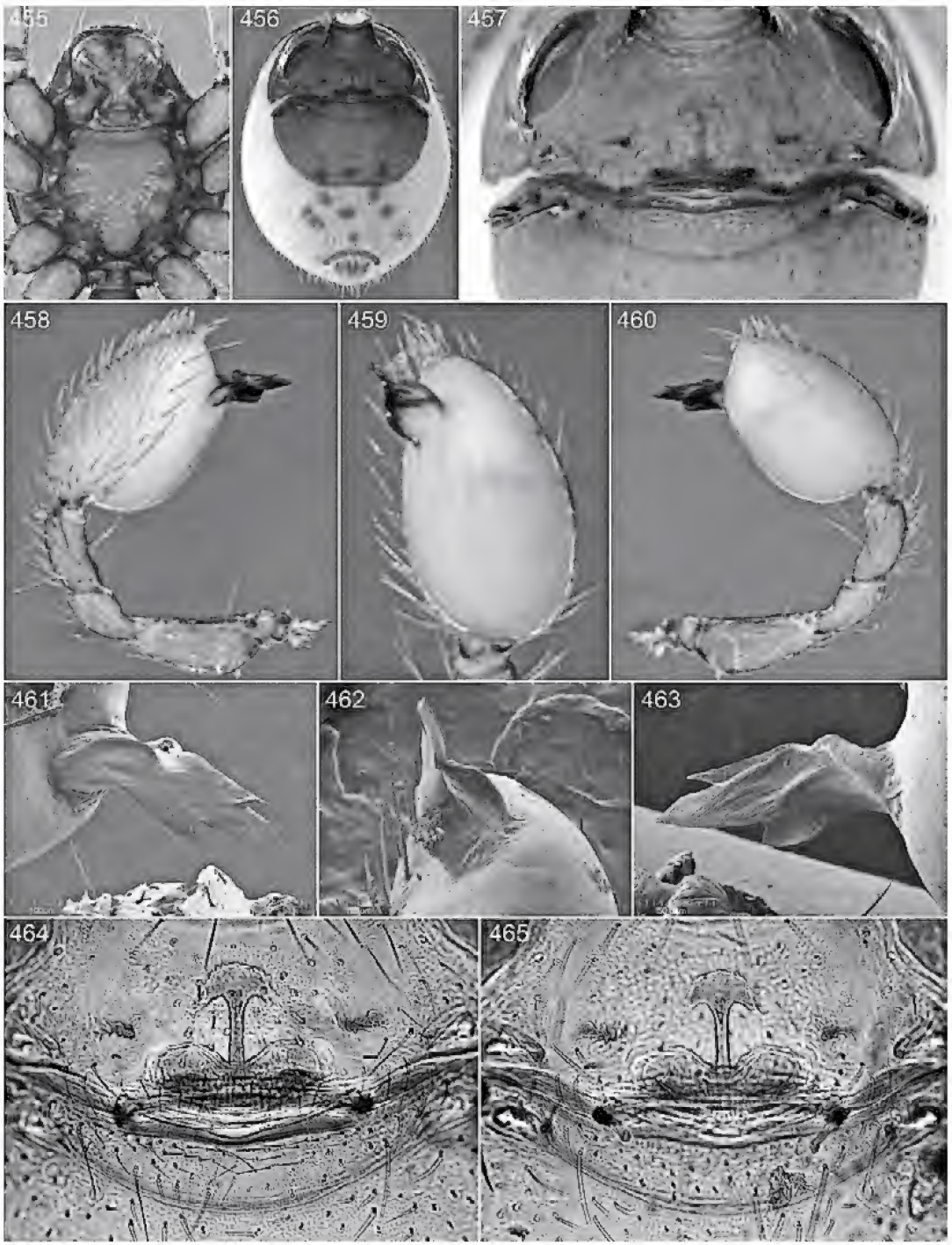
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by having a short, sharp projection on the dorsal margin of the embolus (figs. 461–463), females by the posterolateral extensions on the anterior expansion of the anterior genitalic process and the medially invaginated basal sclerite (fig. 465).

MALE (PBI_OON 25, figs. 455, 458–463): Total length 2.26. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process relatively wide, distally sinuous. Dorsal scutum covering full length of abdomen, no soft



Figs. 444–454. *Aschnaoonops teleferico*, new species, male (444, 447–452) and female (445, 446, 453, 454). **444.** Sternum and mouthparts, ventral view. **445.** Abdomen, ventral view. **446, 453.** Genitalia, ventral view. **447.** Left palp, prolateral view. **448.** Same, ventral view. **449.** Same, retrolateral view. **450.** Left embolus, prolateral view. **451.** Same, ventral view. **452.** Same, retrolateral view. **454.** Genitalia, dorsal view.



Figs. 455–465. *Aschnaoonops jaji*, new species, male (455, 458–463) and female (456, 457, 464, 465). **455.** Sternum and mouthparts, ventral view. **456.** Abdomen, ventral view. **457, 464.** Genitalia, ventral view. **458.** Left palp, prolateral view. **459.** Same, ventral view. **460.** Same, retrolateral view. **461.** Left embolus, prolateral view. **462.** Same, ventral view. **463.** Same, retrolateral view. **465.** Genitalia, dorsal view.

tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femur I p0-0-2, r1-1-0; tibiae: I v4-4-2; II v4-4-0; metatarsi: I v2-2-2; II v3-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus with base very wide, twisted, distal prong with distally directed projection.

FEMALE (PBI_OON 141, figs. 456, 457, 464, 465): Total length 2.62. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process with rectangular anterior enlargement with recurved posterior margins; basal sclerite invaginated at middle.

OTHER MATERIAL EXAMINED: **Venezuela:** *Mérida:* Hechicera, Monte Zerpe, July 22–Aug. 2, 1989, montane forest, carrion trap, elev. 2000 m (S., J. Peck, AMNH PBI_OON 42), 1♂; trail to Monte Cerpa, N Mérida, Mar. 27, 1992, litter near stream, elev. 6400–6800 ft (L. Herman, AMNH PBI_OON 25), 1♂.

DISTRIBUTION: Venezuela (Mérida).

Aschnaoonops merida, new species
Figures 466–476

TYPES: Male holotype, female allotype, and male paratype from elfin forest litter taken at an elevation of 3300 m at Laguna Negra, Parque Nacional Sierra Nevada, 8°47′14″N, 70°48′31″W, Mérida, Venezuela (May 23, 1998; R. Anderson), deposited in AMNH (PBI_OON 902).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the highly complex embolus, with one rounded and three narrow, elongate, distally directed processes (figs. 472–474); females have a ventrally notched pedicel tube (fig. 468) and a short anterior genitalic process without an anterior expansion (fig. 476).

MALE (PBI_OON 52, figs. 466, 469–474): Total length 2.34. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with tip of anterior process relatively wide, directed anterolaterally. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-0-0; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v1p-2-2; II v3-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Distal prong of embolus with three processes, of which two are narrow, one wide.

FEMALE (PBI_OON 52, figs. 467, 468, 475, 476): Total length 2.69. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r1-1-0; tibiae I, II v4-4-2; metatarsi: I v1p-2-2; II v3-0-2. Anterior genitalic process short, narrow, distally attenuated.

OTHER MATERIAL EXAMINED: **Venezuela:** *Mérida:* Páramo de Santo Domingo, 15.6 km SW Santo Domingo, Apr. 7, 1994, litter near stream, elev. 3100 m (L. Herman, AMNH PBI_OON 52), 2♂, 4♀.

DISTRIBUTION: Venezuela (Mérida).

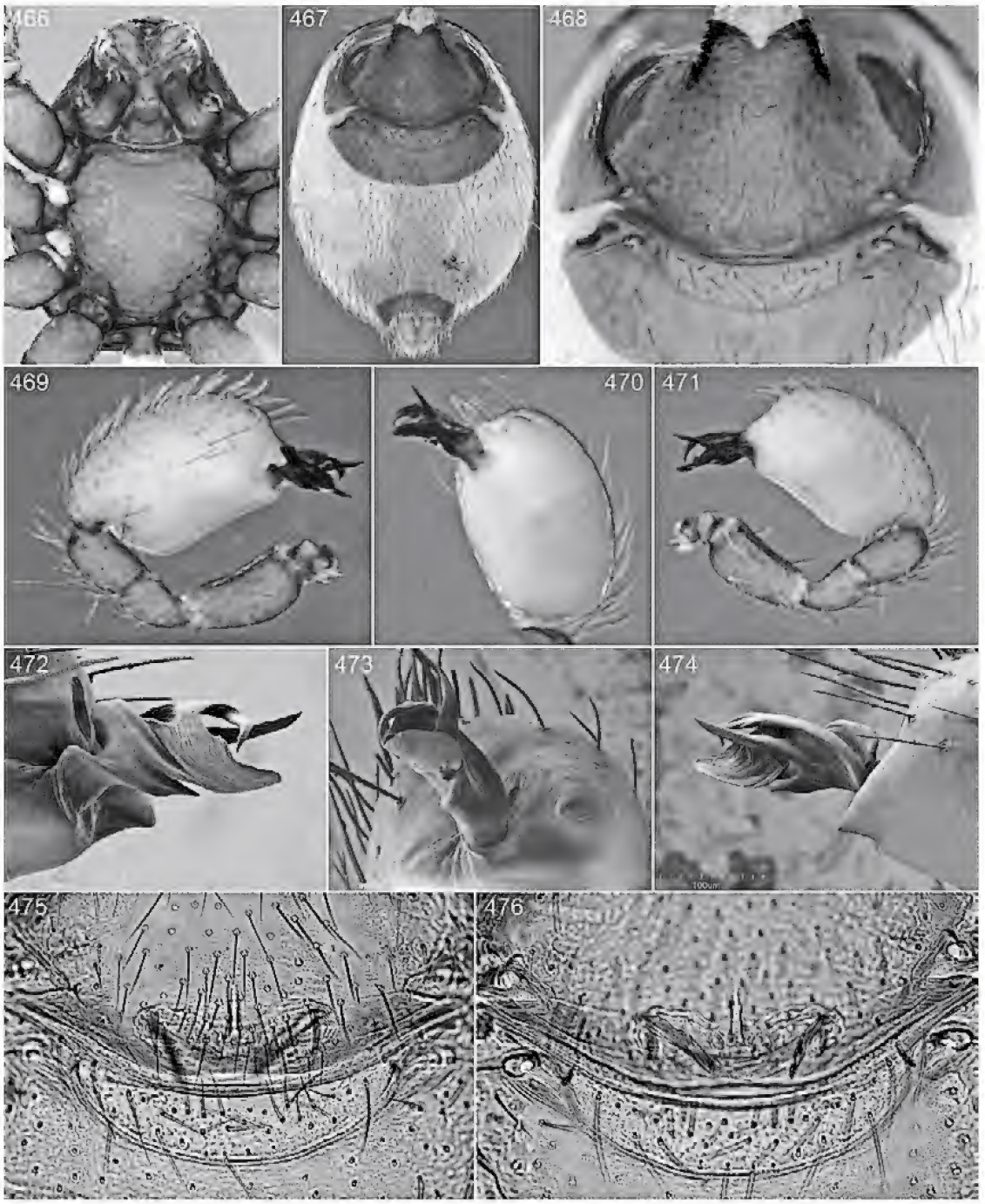
Aschnaoonops aquada, new species
Figures 477–483

TYPE: Male holotype taken in *Espeletia* leafbase at an elevation of 3450 m on a paramo at the La Aguada cable car (Teleférico) station in Mérida, Mérida, Venezuela (June 28, 1989; S., J. Peck), deposited in AMNH (PBI_OON 44).

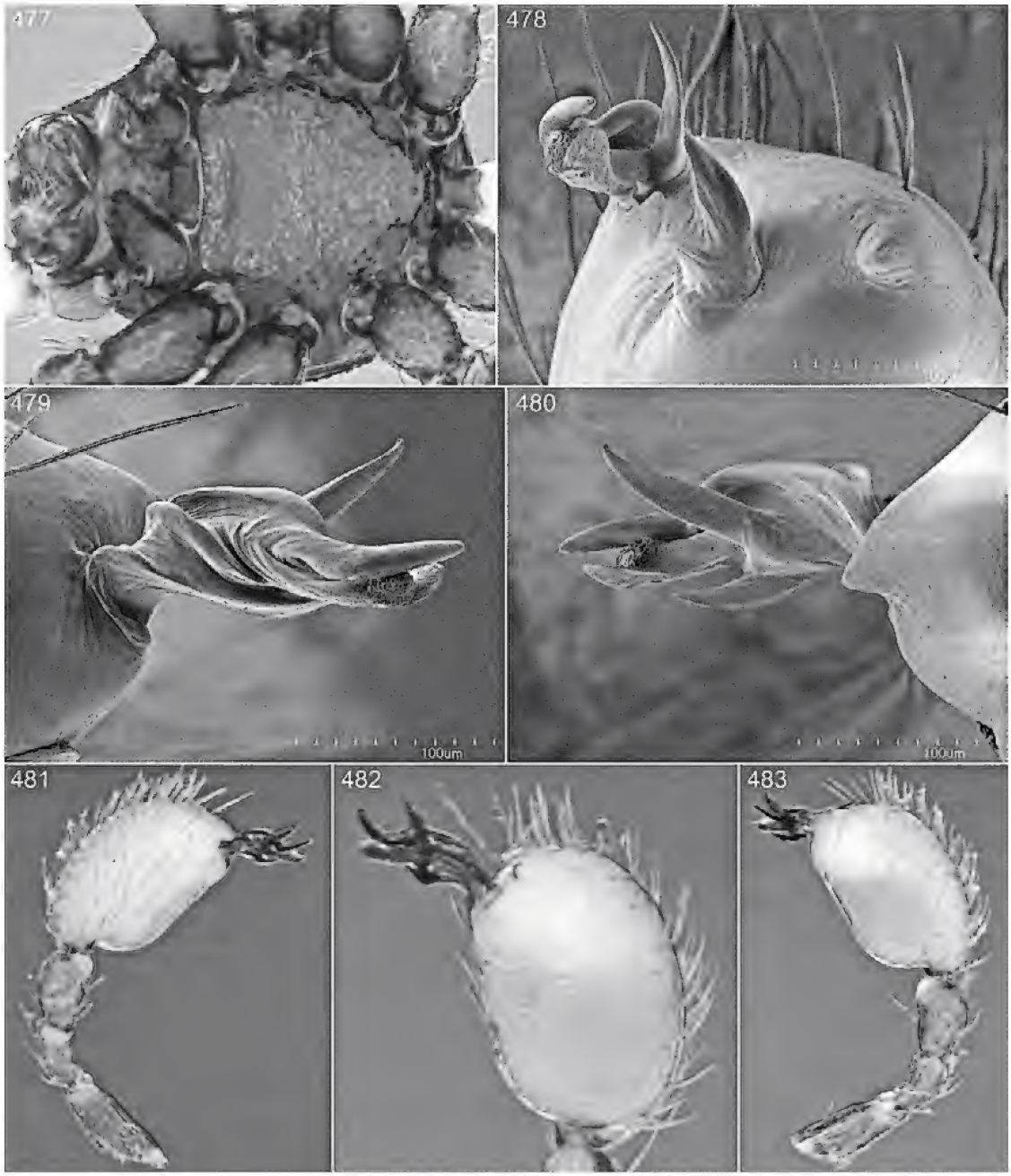
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the highly complex embolus, with four narrow, elongate, distally directed processes (figs. 478–480).

MALE (PBI_OON 44, figs. 477–483): Total length 2.38. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with tip of anterior process truncated. Dorsal scutum covering full length of abdomen, no soft tissue visible from



Figs. 466–476. *Aschnaoonops merida*, new species, male (466, 469–474) and female (467, 468, 475, 476). **466.** Sternum and mouthparts, ventral view. **467.** Abdomen, ventral view. **468, 475.** Genitalia, ventral view. **469.** Left palp, prolateral view. **470.** Same, ventral view. **471.** Same, retrolateral view. **472.** Left embolus, prolateral view. **473.** Same, ventral view. **474.** Same, retrolateral view. **476.** Genitalia, dorsal view.



Figs. 477–483. *Aschnaoonops aquada*, new species, male. **477.** Sternum and mouthparts, ventral view. **478.** Left embolus, ventral view. **479.** Same, prolateral view. **480.** Same, retrolateral view. **481.** Left palp, prolateral view. **482.** Same, ventral view. **483.** Same, retrolateral view.

above, not fused to epigastric scutum. Post-epigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2; tibiae: I v4-2-2; II v4-4-1p; metatarsi: I v1p-2-2; II v1p-1r-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus hand shaped, with

thumb-shaped proximal prong and four processes on distal prong.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Venezuela (Mérida).

Aschnaoonops masneri, new species
Figures 484, 487–492

TYPE: Male holotype taken at an elevation of 2000 m at Santa Rosa, Mérida, Venezuela (May 4–13, 1981; L. Masner), deposited in CNC (PBI_OON 38125).

ETYMOLOGY: The specific name is a patronym in honor of the collector, Lubomir Masner of the CNC.

DIAGNOSIS: Males can easily be recognized by the distally expanded embolus, with four laterally directed processes (figs. 487–492).

MALE (PBI_OON 38125, figs. 484, 487–492): Total length 2.18. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process truncate, with anterolaterally directed tip. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-1; tibiae: I v4-4-2; II v4-4-0; metatarsi: I v2-1p-2; II v2-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Distal prong of embolus with triangular basal process, complex distal processes.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Venezuela (Mérida).

Aschnaoonops trujillo, new species
Figures 496–506

TYPES: Male holotype and male paratype from cloud forest litter taken at an elevation of 2240 m at km 6.0 on the highway to Trujillo, 9°21′03″N, 70°17′36″W, Trujillo, Venezuela (May 20, 1998; R. Anderson), deposited in AMNH (PBI_OON 903).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the pair of dorsal projections on the distal portion of the embolus (figs. 502–504); females resemble those of *A. merida* in having a ventrally notched pedicel tube (fig. 497), but have a longer anterior genitalic process (fig. 506).

MALE (PBI_OON 906, figs. 496, 499–504): Total length 2.29. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process truncated, with anterolaterally directed tip. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-1p-2; II v3-0-2. Sperm pore large, triangular, with rounded angles. Cymbium without distal patch of setae. Distal prong of embolus with three processes arranged serially along its length.

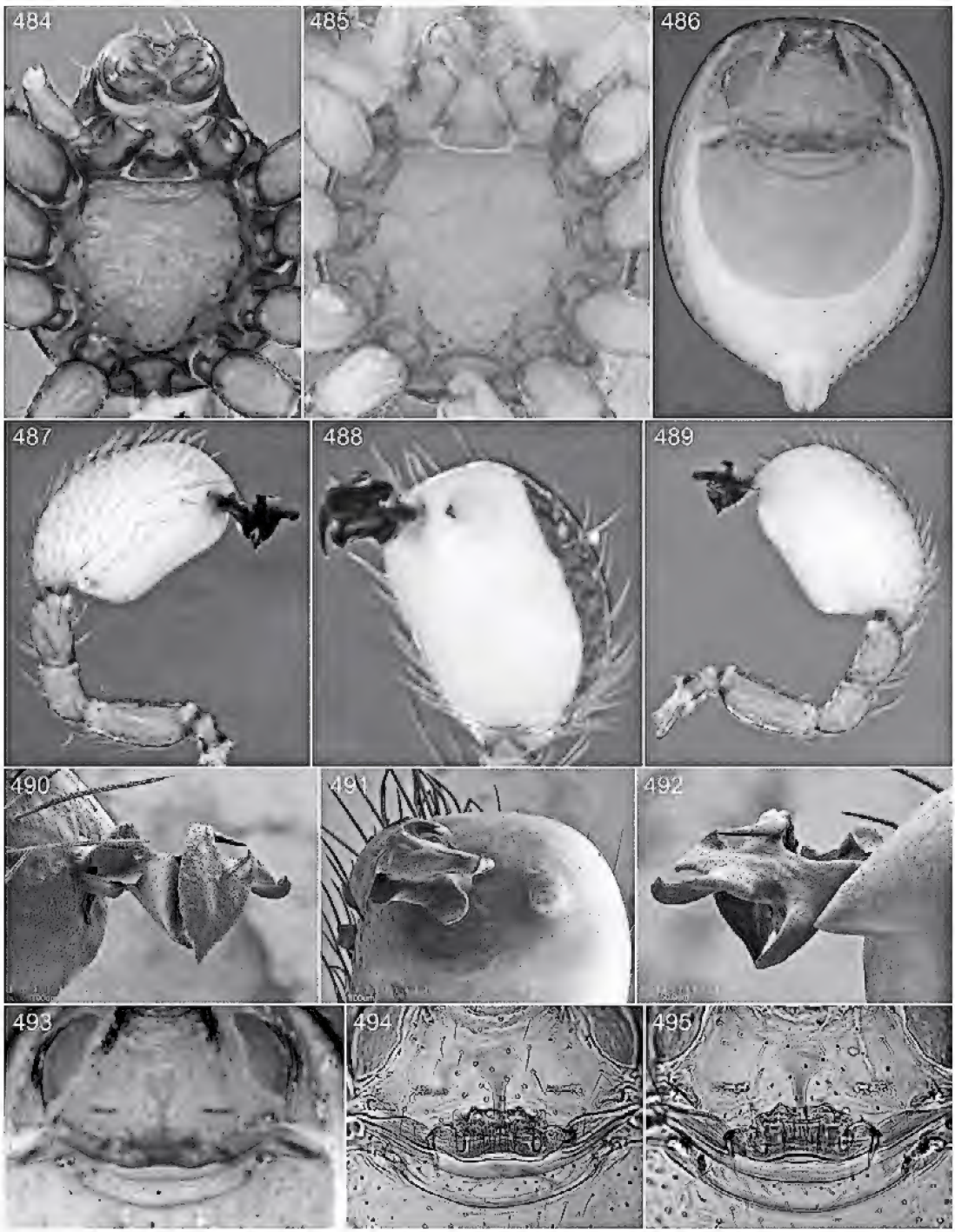
FEMALE (PBI_OON 906, figs. 497, 498, 505, 506): Total length 2.39. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process gradually widened toward anterior end.

OTHER MATERIAL EXAMINED: **Venezuela:** *Trujillo:* Páramo La Cristalina, km. 9.7 on highway to Trujillo, 9°21′21″N, 70°17′51″W, May 20, 1998, elfin forest litter, elev. 2400 m (R. Anderson, AMNH PBI_OON 906), 14♂, 1♀; Parque Nacional Guaramacal, 12. 9 km SE Boconó, 9°14′48″N, 70°12′17″W, May 19, 1998, cloud forest litter, elev. 2350 m (R. Anderson, AMNH PBI_OON 904), 2♂, 2♀, 19.3 km SE Boconó, 9°14′11″N, 70°11′07″W, May 19, 1998, shrub litter, elev. 2800 m (R. Anderson, AMNH PBI_OON 905), 1♂.

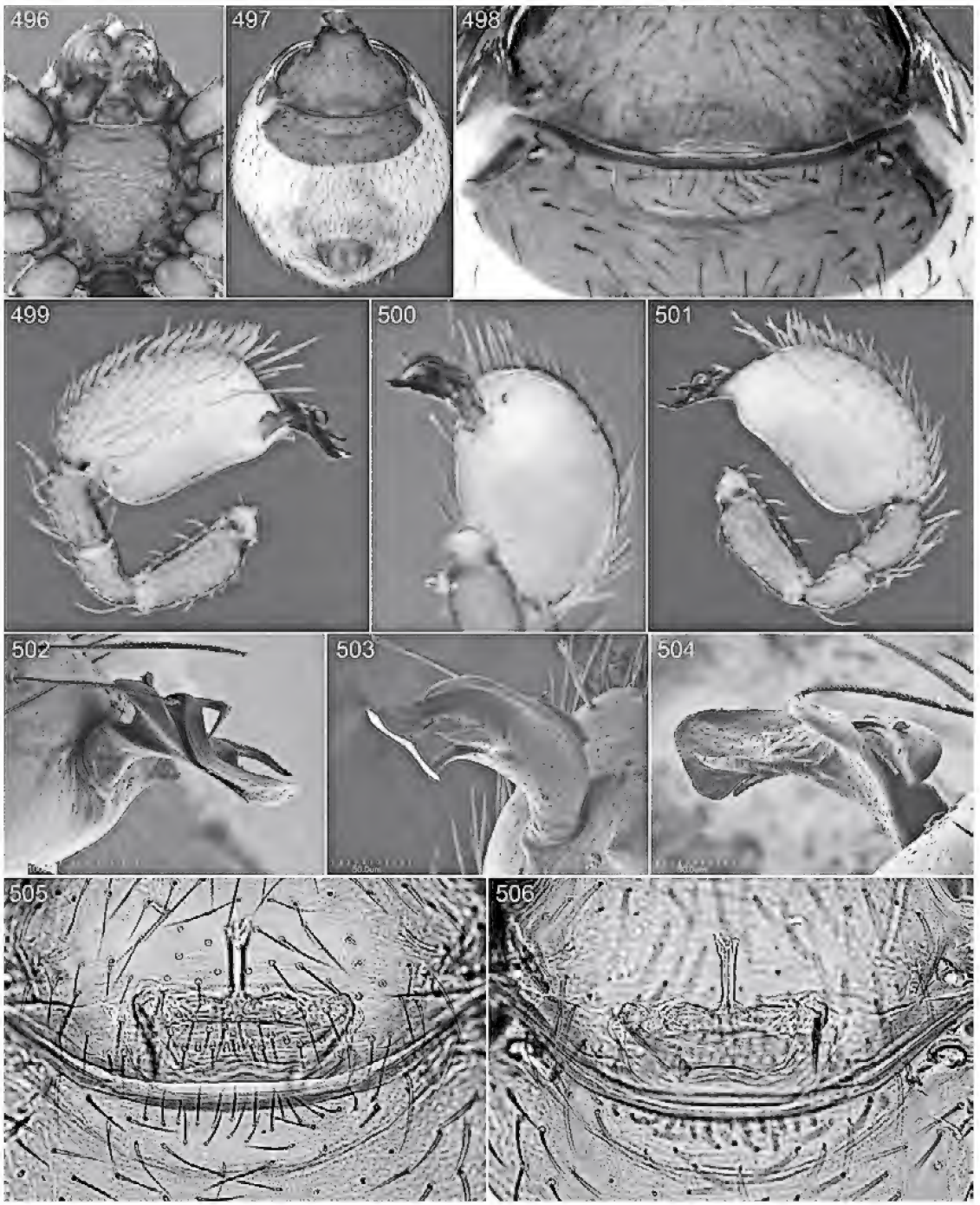
DISTRIBUTION: Venezuela (Trujillo).

Aschnaoonops cristalina, new species
Figures 507–517

TYPES: Male holotype, female allotype, and male paratype from elfin forest litter taken at an elevation of 2400 m at km 9.7 along the highway to Trujillo on the Páramo La Cristalina, 9°21′21″N, 70°17′51″W, Trujillo,



Figs. 484–495. *Aschnaoonops masneri*, new species, male (484, 487–492) and *A. simoni*, new species, female (485, 486, 493–495). **484, 485.** Sternum and mouthparts, ventral view. **486.** Abdomen, ventral view. **487.** Left palp, prolateral view. **488.** Same, ventral view. **489.** Same, retrolateral view. **490.** Left embolus, prolateral view. **491.** Same, ventral view. **492.** Same, retrolateral view. **493, 494.** Genitalia, ventral view. **495.** Genitalia, dorsal view.



Figs. 496–506. *Aschnaoonops trujillo*, new species, male (496, 499–504) and female (497, 498, 505, 506). **496.** Sternum and mouthparts, ventral view. **497.** Abdomen, ventral view. **498, 505.** Genitalia, ventral view. **499.** Left palp, prolateral view. **500.** Same, ventral view. **501.** Same, retrolateral view. **502.** Left embolus, prolateral view. **503.** Same, ventral view. **504.** Same, retrolateral view. **506.** Genitalia, dorsal view.

Venezuela (May 20, 1998; R. Anderson), deposited in AMNH (PBI_OON 907).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Although sympatric with *A. trujillo*, both sexes can easily be recognized by the more elaborate sternal sculpturing (fig. 507) and the lack of a spinneret scutum (fig. 508); males have a single, median dorsal projection on the distal portion of the embolus (figs. 513–515), females have a conifer-shaped expansion on the anterior genitalic process (fig. 517).

MALE (PBI_OON 907, figs. 507, 510–515): Total length 2.90. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with tip of anterior process broad, anterolaterally directed. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus retrolaterally excavated, arrow shaped, with dorsal protrusion.

FEMALE (PBI_OON 907, figs. 508, 509, 516, 517): Total length 3.20. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r1-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process with conifer-shaped anterior expansion.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Venezuela (Trujillo).

Aschnaoonops bocono, new species
Figures 518–528

TYPES: Male holotype and male paratype from sifted leaf litter taken at an elevation of 1500 m at a site 15.3 km SSE of Boconó San Antonio, 9°08′N, 70°13′W, Trujillo, Venezuela (Apr. 17, 1992; J. Lattke), deposited in CAS (26677, PBI_OON 2645).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the internal extension of the embolar duct (fig. 522) and the numerous narrow projections on the prolateral side of the embolus (fig. 524). Females have an extremely long, narrow anterior genitalic process (fig. 528).

MALE (PBI_OON 910, figs. 518, 521–526): Total length 1.88. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process sharply pointed, directed anteromedially. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femur I p0-0-2, r0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-1p-2; II v3-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus prolaterally with numerous narrow protrusions.

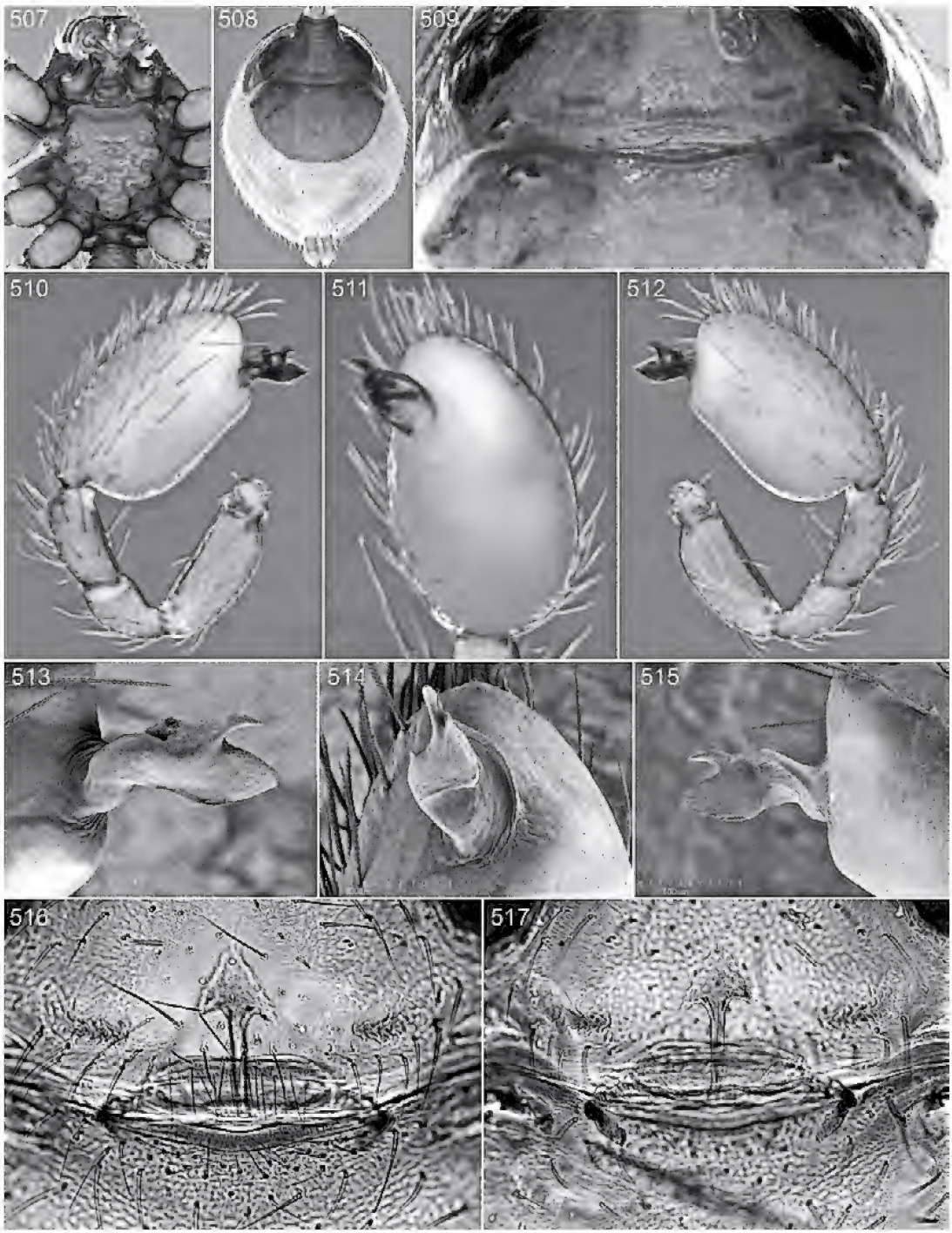
FEMALE (PBI_OON 910, figs. 519, 520, 527, 528): Total length 2.01. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process very long, very narrow, sclerite at base short.

OTHER MATERIAL EXAMINED: **Venezuela:** *Lara:* Parque Nacional Yacambú, 14.2 km SE Sanare, 9°41′45″N, 69°36′48″W, May 18, 1998, cloud forest litter, elev. 1650 m (R. Anderson, AMNH PBI_OON 910), 5♂, 2♀, 14.4 km SE Sanare, 9°42′22″N, 69°34′42″W, May 17–18, 1998, cloud forest litter, elev. 1500 m (R. Anderson, AMNH PBI_OON 908, 909), 3♂, 1♀.

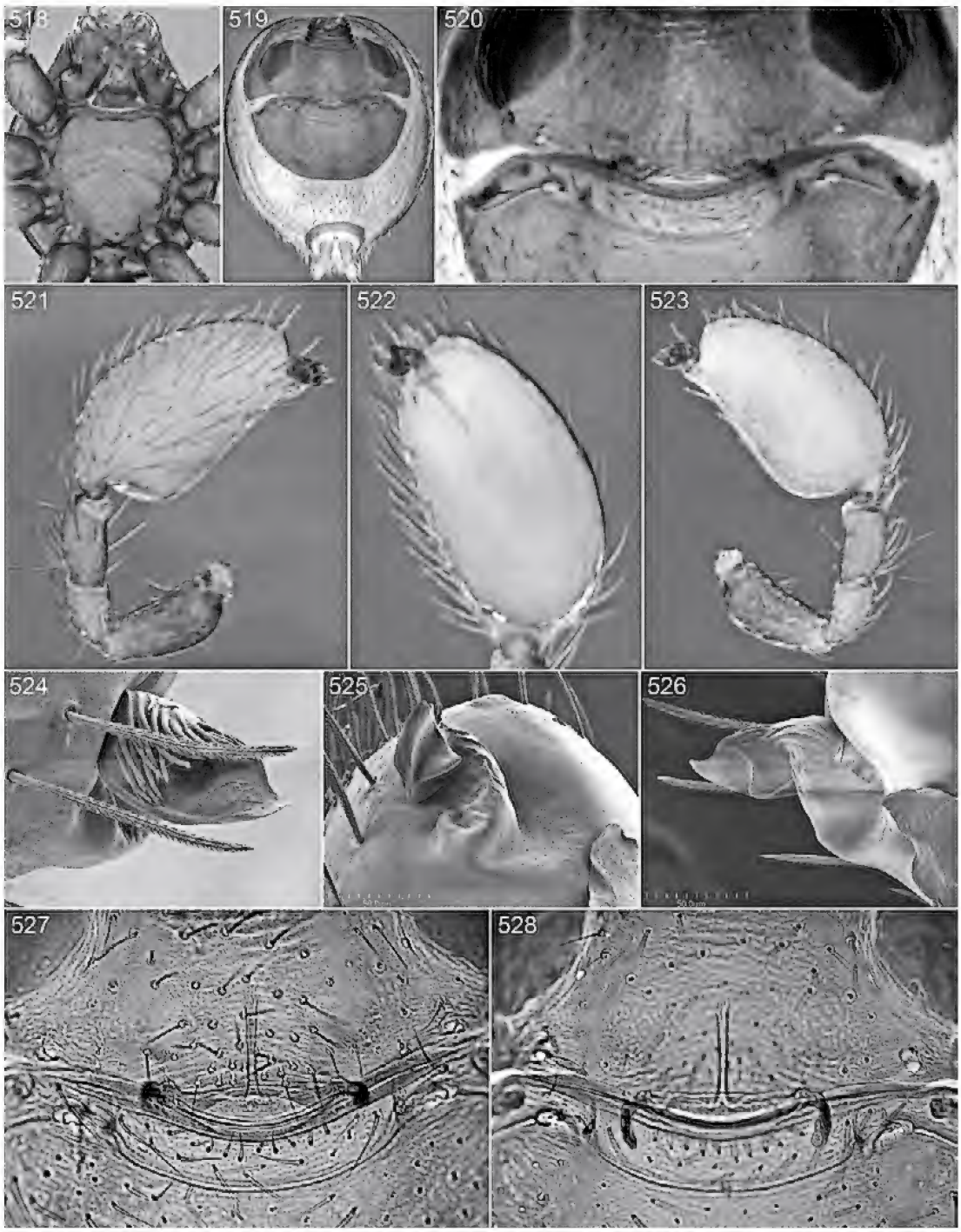
DISTRIBUTION: Venezuela (Trujillo, Lara).

Aschnaoonops simoni, new species
Figures 485, 486, 493–495

Dysderina principalis (misidentification): Simon, 1891: 557, 1893b: 441 (in part, one female from Venezuela only).



Figs. 507–517. *Aschnaoonops cristalina*, new species, male (507, 510–515) and female (508, 509, 516, 517). **507.** Sternum and mouthparts, ventral view. **508.** Abdomen, ventral view. **509, 516.** Genitalia, ventral view. **510.** Left palp, prolateral view. **511.** Same, ventral view. **512.** Same, retrolateral view. **513.** Left embolus, prolateral view. **514.** Same, ventral view. **515.** Same, retrolateral view. **517.** Genitalia, dorsal view.



Figs. 518–528. *Aschnaoonops bocono*, new species, male (518, 521–526) and female (519, 520, 527, 528). **518.** Sternum and mouthparts, ventral view. **519.** Abdomen, ventral view. **520, 527.** Genitalia, ventral view. **521.** Left palp, prolateral view. **522.** Same, ventral view. **523.** Same, retrolateral view. **524.** Left embolus, prolateral view. **525.** Same, ventral view. **526.** Same, retrolateral view. **528.** Genitalia, dorsal view.

TYPE: Female holotype from Venezuela, without specific locality but presumably from one of the three localities in northern Venezuela specified by Simon (1893b: 441): Caracas (Distrito Capital), Corosal (Falcón), or San Esteban (Falcón), deposited in MNHN (10979, PBI_OON 917).

ETYMOLOGY: The specific name is a patronym in honor of the likely collector of the holotype.

DIAGNOSIS: Females resemble those of *A. silvae* but differ in the shape of the proximal sclerite at the base of the anterior genitalic process (fig. 495).

MALE: Unknown.

FEMALE (PBI_OON 917, figs. 485, 486, 493–495): Total length 2.16. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, not fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 1/2 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-1p; metatarsi: I v2-2-0; II v2-0-2. Anterior genitalic process with club-shaped anterior expansion, basal sclerite large, elaborate.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Venezuela (presumably coastal portions of Falcón and/or the Distrito Capital).

Aschnaoonops margaretae, new species
Figures 529–539

Dysderina principalis (misidentification): Simon, 1891: 557, 1893b: 441 (in part, one female from Venezuela only).

Prodysderina spinigera (misidentification): Dumitrescu and Georgescu, 1987: 98, pl. 5, figs. 1–5.

TYPES: Male holotype and male paratype from cloud forest litter taken at an elevation of 1550 m on the road to Pico Guacamaya in the Estación Biológica Rancho Grande, Parque Nacional Henri Pittier, 10°21′37″N, 67°40′25″W, Aragua, Venezuela (May 14, 1998; R. Anderson), deposited in AMNH (PBI_OON 911).

ETYMOLOGY: The specific name is a patronym in honor of Margareta Dumitrescu, who was the first to describe this species.

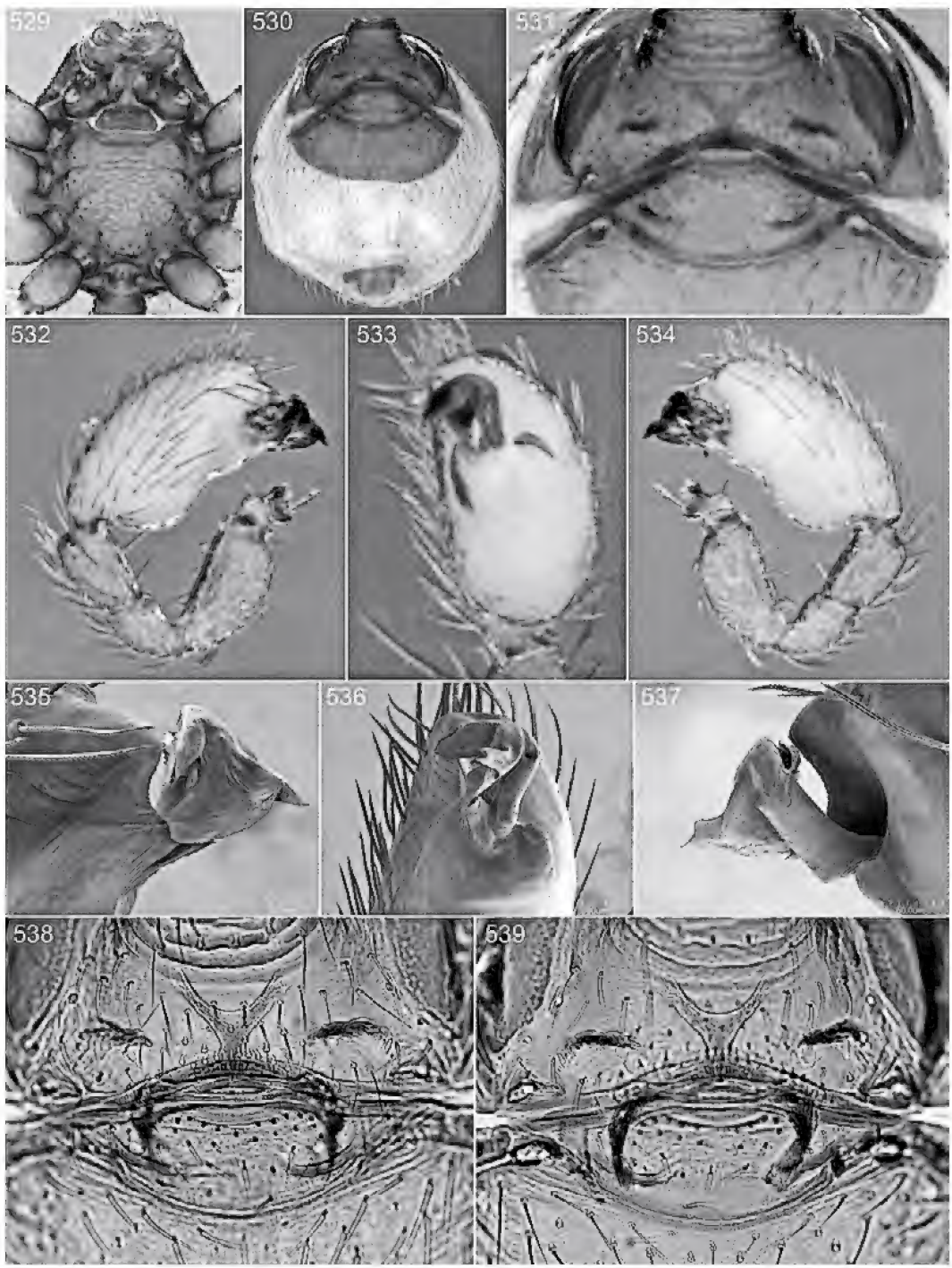
DIAGNOSIS: Males can easily be recognized by the invaginated tip of the cymbium (figs. 534, 537), females by the distinctive shape of the postepigastric scutum (fig. 530, 531).

MALE (PBI_OON 916, figs. 529, 532–537): Total length 2.00. ALE separated by their radius to diameter. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process short, wide, directed anteromedially. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2, r1-1-0; tibiae: I v4-4-1p; II v4-4-0; metatarsi: I v2-1p-2; II v2-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus compact, triangular, on narrow base.

FEMALE (PBI_OON 916, figs. 530, 531, 538, 539): Total length 2.20. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora: I p0-0-2, r1-1-2; II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-1p-2; II v3-0-2. Anterior genitalic process relatively wide, with bifid anterior expansion.

OTHER MATERIAL EXAMINED: **Venezuela:** no specific locality (MNHN, PBI_OON 914), 1♀. *Aragua:* Estación Biológica Rancho Grande, Parque Nacional Henri Pittier, 10°20′42″N, 67°41′09″W, May 12, 1998, montane forest litter, elev. 1150 m (R. Anderson, AMNH PBI_OON 916), 4♂, 1♀; road to Pico Guacamaya, Estación Biológica Rancho Grande, Parque Nacional Henri Pittier, 10°21′38″N, 67°40′38″W, May 14, 1998, cloud forest litter, elev. 1450 m (R. Anderson, AMNH PBI_OON 912), 2♀; Rancho Grande, 15 km N Maracay, Feb. 9–27, 1971, Berlese, forest litter (S. Peck, AMNH PBI_OON 915), 1♀; Rancho Grande, 20 km NW Maracay, Apr. 15, 1994, litter, elev. 1150 m (L. Herman, AMNH PBI_OON 913), 1♀.

DISTRIBUTION: Venezuela (Aragua).



Figs. 529–539. *Aschnaoonops margaretae*, new species, male (529, 532–537) and female (530, 531, 538, 539). **529.** Sternum and mouthparts, ventral view. **530.** Abdomen, ventral view. **531, 538.** Genitalia, ventral view. **532.** Left palp, prolateral view. **533.** Same, ventral view. **534.** Same, retrolateral view. **535.** Left embolus, prolateral view. **536.** Same, ventral view. **537.** Same, retrolateral view. **539.** Genitalia, dorsal view.

KEY TO SPECIES FROM BRAZIL AND THE WEST INDIES

1. Males (those of *A. malkini, A. caninde,* and *A. gorda* unknown) 2
– Females 4
2. Embolus arrow shaped (fig. 576) . . . . *simla*
– Embolus otherwise 3
3. Embolus with two ventrally directed projections (fig. 587) . . . . . *villalba*
– Embolus with distally directed projections (fig. 565). . . . . *belem*
4. Anterior genitalic process long, T-shaped (fig. 578). . . . . *simla*
– Anterior genitalic process otherwise 5
5. Basal sclerite narrow, triangular, longer than anterior genitalic process (fig. 551) . . *gorda*
– Basal sclerite otherwise 6
6. Anterior genitalic process with anterior expansion (figs. 544, 545) . . . . . *malkini*
– No anterior expansion. 7
7. Posterior tibiae and metatarsi with spines; anterior genitalic process apparently absent (figs. 588, 589) . . . . . *villalba*
– Posterior legs without spines; anterior genitalic process obvious 8
8. Basal sclerite reaching to two-thirds of length of anterior genitalic process (fig. 556) . . . . . *caninde*
– Basal sclerite reaching only to about half of length of anterior genitalic process (fig. 567) . . . . . *belem*

Aschnaoonops malkini, new species
Figures 540–546

TYPE: Female holotype from Igarapé Belém, near its confluence with the Rio Solimões, Amazonas, Brazil (Apr. 5–30, 1966; B. Malkin), deposited in AMNH (PBI_OON 38061).

ETYMOLOGY: The specific name is a patronym in honor of the collector of the holotype, Borys Malkin.

DIAGNOSIS: The single known female resembles those of the Colombian species *A. pira* but has a wider anterior expansion on the anterior genitalic process (fig. 545). It is conceivable that it represents the unknown female of the Colombian species *A. leticia* (according to Lynch, 1980, the Brazilian type locality is about 70 km east of Leticia, Colombia, although according to Heyer, 1994, there is some doubt about whether all the Malkin material with this locality data is actually from the same place). However, the sternum of the Brazilian female (fig. 541) is more tuberculate than that of the Colombian male (fig. 274), and we therefore predict that the male of the Brazilian species, when collected, will be different from that of *A. leticia.*

MALE: Unknown.

FEMALE (PBI_OON 38061, figs. 540–546): Total length 1.85. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, not fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process with short, wide, semicircular anterior expansion; basal sclerite shorter at middle than at sides.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Brazil (far western Amazonas).

Aschnaoonops caninde, new species
Figures 552–556

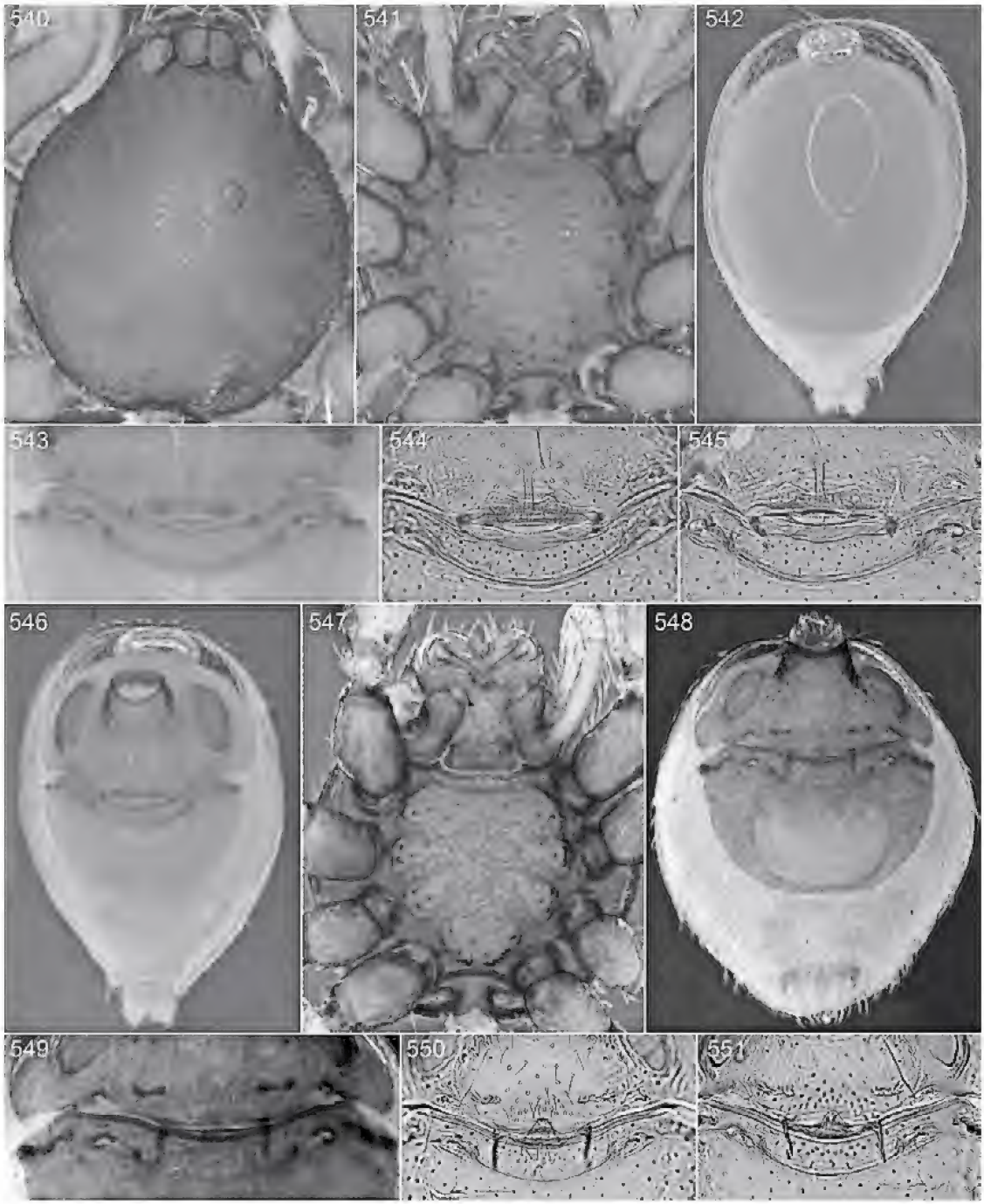
TYPE: Female holotype and female paratype from Rio Gurupi, Canindé, Paragominas, Pará, Brazil (Apr. 7–15, 1983; B. Malkin), deposited in AMNH (PBI_OON 38070).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

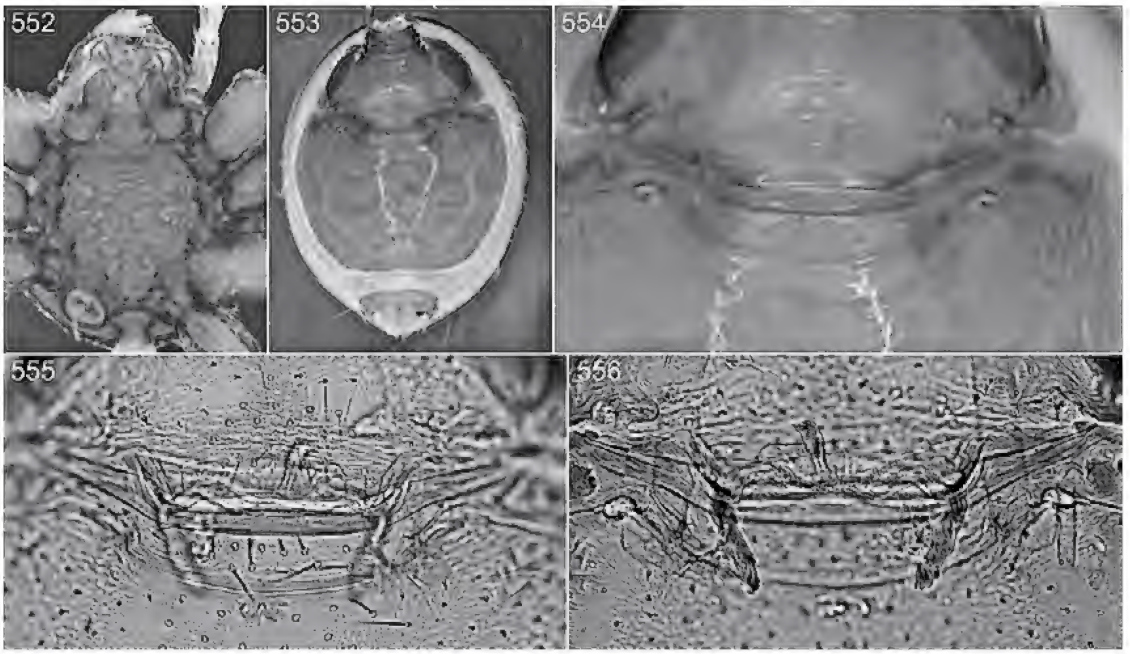
DIAGNOSIS: Females have an unusually long postepigastric scutum, extending almost to the spinneret scutum (fig. 553) and have a short anterior genitalic process that is only slightly widened anteriorly (fig. 556).

MALE: Unknown.

FEMALE (PBI_OON 38067, figs. 552–556): Total length 2.34. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum covering about 2/3 of abdomen length. Leg spination: femora: I p0-0-3, r1-1-2; II p0-0-2, r1-1-2; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process only slightly widened anteriorly, only about 1/3 of its length extending anterior of basal sclerite.



Figs. 540–551. *Aschnaoonops malkini*, new species, female (540–546) and *A. gorda*, new species, female (547–551). **540.** Carapace, dorsal view. **541, 547.** Sternum and mouthparts, ventral view. **542.** Abdomen, dorsal view. **543, 544, 549, 550.** Genitalia, ventral view. **545, 551.** Same, dorsal view. **546, 548.** Abdomen, ventral view.



Figs. 552–556. *Aschnaoonops caninde*, new species, female. **552.** Sternum and mouthparts, ventral view. **553.** Abdomen, ventral view. **554, 555.** Genitalia, ventral view. **556.** Same, dorsal view.

OTHER MATERIAL EXAMINED: **Brazil:** *Pará:* Aldeia Corscei, Rio Gurupi, 12 km W Canindé, Apr. 16–26, 1983 (B. Malkin, AMNH PBI_OON 38067), 3♀.

DISTRIBUTION: Brazil (Pará, near the Maranhão border).

Aschnaoonops belem, new species
Figures 557–567

Type: Male holotype from Benevides, near Belém, 1°21′32.41″S, 48°14′49.14″W, Pará, Brazil (Apr. 1–8, 2001; S. Souza), deposited in MPEG (19118, PBI_OON 1001).

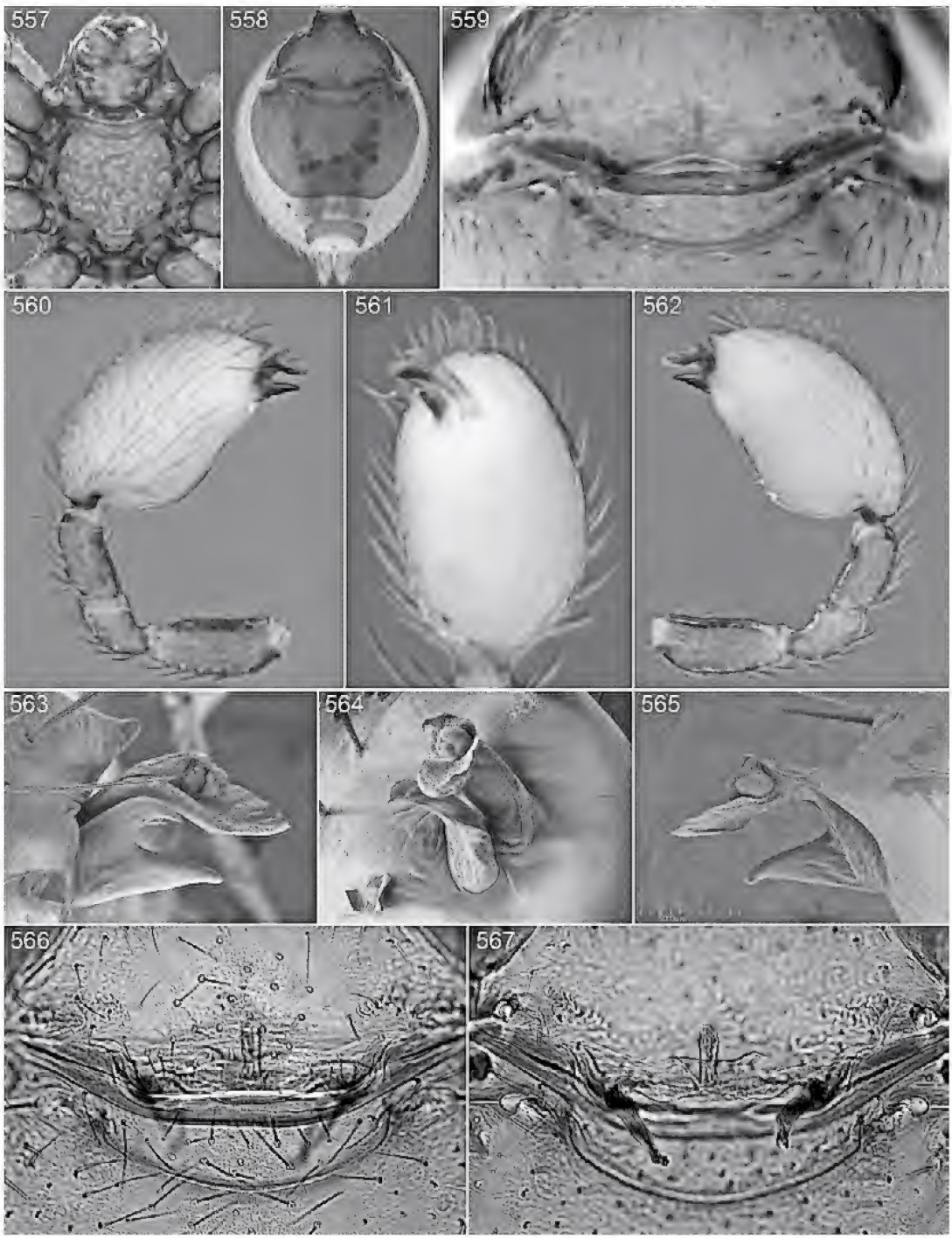
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the deeply bifid appearance of the embolus in prolateral view (figs. 560, 563), females by the short anterior genitalic process, which is uniformly wide throughout its length (fig. 567).

MALE (PBI_OON 1004, figs. 557, 560–565): Total length 2.12. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process narrow, sharply pointed. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-1-2, r1-1-2; II p0-0-2, r1-1-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v3-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus with distal prong bearing translucent dorsal flange.

FEMALE (PBI_OON 49408, figs. 558, 559, 566, 567): Total length 2.37. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width. Postepigastric scutum covering about 2/3 of abdomen length. Leg spination: femora: I p0-1-2, r1-1-2; II p0-0-2, r1-1-2; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v3-0-2. Anterior genitalic process short, without anterior expansion, uniform in width.

OTHER MATERIAL EXAMINED: **Brazil:** *Pará:* Benevides, near Belém, Jan. 27, 2001 (J. Barreiros, D. Santos-Souza, MPEG 4686, PBI_OON 49410), 1♀; Parque Ambiental do



Figs. 557–567. *Aschnaoonops belem*, new species, male (557, 560–565) and female (558, 559, 566, 567). **557.** Sternum and mouthparts, ventral view. **558.** Abdomen, ventral view. **559, 566.** Genitalia, ventral view. **560.** Left palp, prolateral view. **561.** Same, ventral view. **562.** Same, retrolateral view. **563.** Left embolus, prolateral view. **564.** Same, ventral view. **565.** Same, retrolateral view. **567.** Genitalia, dorsal view.

Utinga, Belém, 1°25′21.8″S, 48°25′14.2″W, Oct. 23–30, 2010 (E. Costa et al., MPEG 19124, 19126–19128, PBI_OON 1004, 1006, 1007, 49408), 2♂, 2♀, 1°25′23.1″S, 48°25′45.5″W, Oct. 23–30, 2010 (E. Costa et al., MPEG 19123, PBI_OON 1002), 1♂, 1°25′57.7″S, 48°24′40.6″W, Oct. 23–30, 2010 (E. Costa et al., MPEG 19125, PBI_OON 1005), 1♂; Reserva Mocambo, Belém, 1°26′23.84″S, 48°24′42.37″W, Dec. 6–12, 2007 (B. Rodrigues, J. Pereira-Filho, MPEG 19119, PBI_OON 1003), 1♂; Reserva Particular do Patrimônio Natural Samaúma, Barcarena, 1°29′47″S, 48°42′38″W, 2001 (A. Bonaldo et al., MPEG 19120–19122, PBI_OON 1008, 49407, 49409), 3♀.

DISTRIBUTION: Brazil (Pará).

Aschnaoonops aschnae Makhan and Ezzatpanah

Aschnaoonops aschnae Makhan and Ezzatpanah, 2011: 1, figs. 1–6 (male holotype from Kasikasima, Suriname, supposedly deposited in University of Suriname, not available for examination).

DIAGNOSIS: Apparently closely related to *A. belem* (see above), but little can be said about the species until topotypical specimens become available for study.

MALE: "Described" by Makhan and Ezzatpanah (2011) but largely unknown.

FEMALE: Unknown.

MATERIAL EXAMINED: None.

DISTRIBUTION: Suriname.

Aschnaoonops simla (Chickering), new combination
Figures 568–578

Dysderina simla Chickering, 1968: 29, figs. 65–68 (male holotype from Simla, Arima, Trinidad, in MCZ; examined).

DIAGNOSIS: Males can be recognized by the tiny projection paralleling the tip of the embolus (figs. 574–576); females by the short, T-shaped anterior genitalic process (fig. 578).

MALE (PBI_OON 10679, figs. 568, 571–576): Total length 1.81. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process broad, sinuous, wide at tip. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femur I p0-0-2, r1-1-0; tibiae I, II v4-4-1p; metatarsi: I v2-2-2; II v2-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus retrolaterally excavated, triangular in prolateral view.

FEMALE (PBI_OON 919, figs. 569, 570, 577, 578): Total length 2.20. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae I, II v4-4-2; metatarsi: I v2-1p-2; II v2-0-2. Anterior genitalic process short, T-shaped, basal sclerite with two lateral lobes.

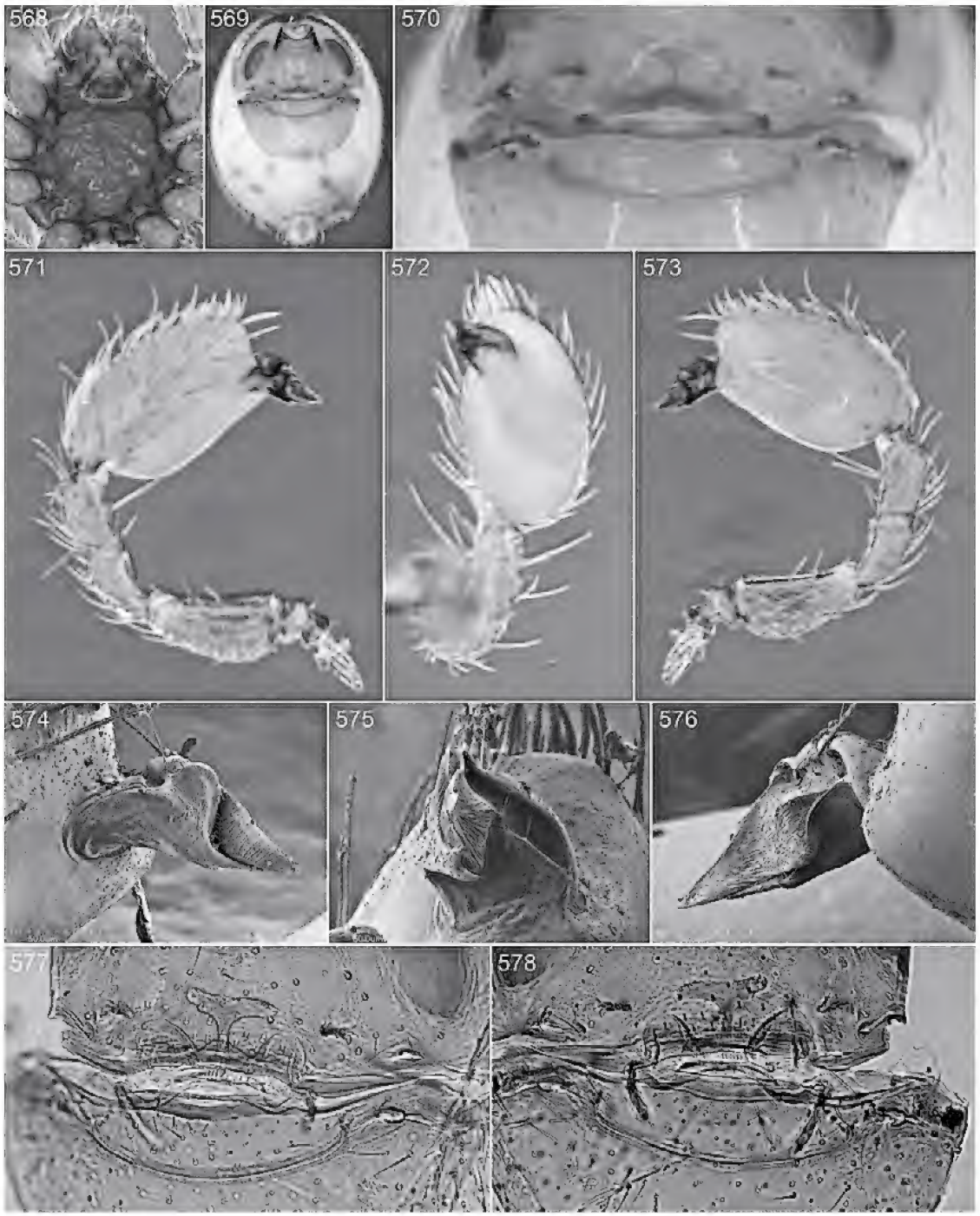
OTHER MATERIAL EXAMINED: **Trinidad:** Navy Base, SW Trinidad, Apr. 1945 (R. Ingle, AMNH PBI_OON 38043), 1♀. *Arima:* Arima Forest Reserve, 11 km SE Arima, June 13–22, 1993, flight intercept trap (S., J. Peck, FMNH 43142, PBI_OON 10685), 1♂; Arima Valley, Feb. 10–22, 1964, elev. 800–1200 ft (P. Wygodzinsky, J. Rozen, AMNH PBI_OON 38044, 38045), 2♂, 1♀; road to Blanchesseuse, 4–13 mi N Simla, Apr. 22, 1964 (A. Chickering, MCZ 66673, PBI_OON 921), 1♂; Simla, Arima Valley, Mar. 31, 1964 (A. Chickering, MCZ 66675, PBI_OON 920), 1♂, Apr. 5, 1964 (A. Chickering, MCZ PBI_OON 918), 1♂, 1♀ (holotype, paratype), Apr. 5–25, 1964 (A. Chickering, MCZ 66674, PBI_OON 919), 1♂, 8♀. *Saint George:* Maracas Valley, above Loango village, June 9–22, 1993, flight intercept trap (S., J. Peck, FMNH43136, PBI_OON 10679), 3♂, 2♀.

DISTRIBUTION: Trinidad.

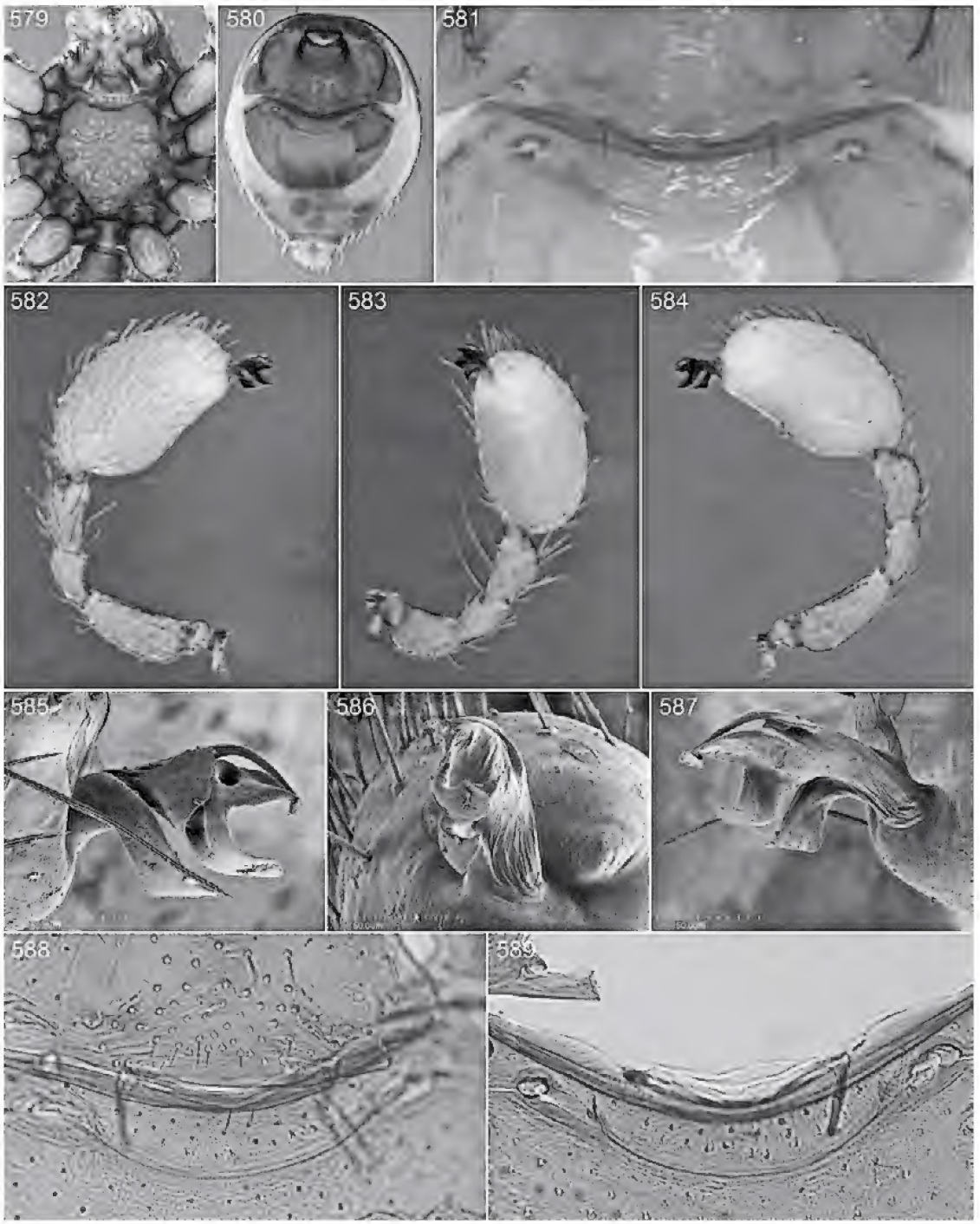
Aschnaoonops villalba, new species
Figures 579–589

TYPES: Male holotype and female allotype from forest leaf litter taken at an elevation of 3900 feet at a site 6 mi N of Villalba on Rt. 149, 6.7 mi W of Rt. 143, near Cerro de Punta, Villalba, Puerto Rico (Mar. 18, 1992; L. Herman), deposited in AMNH (PBI_OON 38066).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.



Figs. 568–578. *Aschnaoonops simla* (Chickering), male (568, 571–576) and female (569, 570, 577, 578). **568.** Sternum and mouthparts, ventral view. **569.** Abdomen, ventral view. **570, 577.** Genitalia, ventral view. **571.** Left palp, prolateral view. **572.** Same, ventral view. **573.** Same, retrolateral view. **574.** Left embolus, prolateral view. **575.** Same, ventral view. **576.** Same, retrolateral view. **578.** Genitalia, dorsal view.



Figs. 579–589. *Aschnaoonops villalba*, new species, male (579, 582–587) and female (580, 581, 588, 589). **579.** Sternum and mouthparts, ventral view. **580.** Abdomen, ventral view. **581, 588.** Genitalia, ventral view. **582.** Left palp, prolateral view. **583.** Same, ventral view. **584.** Same, retrolateral view. **585.** Left embolus, prolateral view. **586.** Same, ventral view. **587.** Same, retrolateral view. **589.** Genitalia, dorsal view.

DIAGNOSIS: Males can easily be recognized by the pair of parallel, ventrally directed flanges at the base of the embolus (figs. 585–587); the single known female specimen is probably teratological, but can be recognized by the presence of spines on the prolateral surfaces of tibiae and metatarsi III and IV.

MALE (PBI_OON 38066, figs. 579, 582–587): Total length 2.03. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Endites with anterior process narrow, sharply pointed. Dorsal scutum covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum. Postepigastric scutum long, almost rectangular, extending to nearly full length of abdomen. Leg spination: femora: I p0-0-2, r1-1-1; II p0-0-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-1p-2; II v3-0-2. Sperm pore small, narrow, slitlike. Cymbium without distal patch of setae. Embolus as seen in lateral view, with two parallel, ventrally directed prongs.

FEMALE (PBI_OON 38066, figs. 580, 581, 588, 589): Total length 2.35. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 1/2 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-1p-2; II v3-0-2 (tibiae, metatarsi III, IV also have prolateral spines, right and left sides different, specimen probably teratological). No anterior genitalic process detected, only short, translucent basal sclerite (probably teratological).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Puerto Rico.

Aschnaoonops gorda, new species
Figures 547–551

TYPE: Female holotype from Virgin Gorda Mountain, Virgin Gorda, Virgin Islands (June 26, 1966), deposited in AMNH (PBI_OON 38069).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females can be recognized by the narrow, triangular basal sclerite at the base of the tiny, T-shaped anterior genitalic process (fig. 551).

MALE: Unknown.

FEMALE (PBI_OON 38069, figs. 547–551): Total length 2.07. ALE separated by less than their radius. Sternum surface coarsely reticulate, microsculpture everywhere but front. Dorsal scutum covering more than 3/4 of abdomen length, more than 1/2 to most of abdomen width, not fused to epigastric scutum. Postepigastric scutum almost semicircular, covering about 1/3 of abdomen length. Leg spination: femora I, II p0-0-2, r1-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-1p-2; II v3-0-2. Anterior genitalic process apparently tiny, T-shaped, hidden behind narrow triangular basal sclerite.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Virgin Islands.

Bidysderina, new genus

TYPE SPECIES: *Bidysderina perdido*, new species.

ETYMOLOGY: The generic name refers to the bipartite embolus and the similarities to the genus *Dysderina*, and is feminine in gender.

DIAGNOSIS: Members of this genus resemble those of *Prodysderina* and *Aschnaoonops* in sternal and spiracular characters, but can easily be distinguished by the deeply bifid embolar structure (figs. 627, 660), the distinctively modified tips of the male endites (fig. 595), and the small but distinct female genitalic atrium (figs. 622, 644). The almost fully bifid embolar structure suggests that, despite the sternal similarities to *Prodysderina* and *Aschnaoonops*, this genus may actually be more closely related to *Dysderina* and some undescribed genera, the members of which seem to have a fully separate embolus and conductor.

DESCRIPTION: Total length of male 1.6–2.1, of females 2.3–3.1. Carapace, sternum, mouthparts, abdominal scuta, legs orange-brown, without pattern; abdomen soft portions white, without pattern. **Cephalothorax:** Carapace broadly oval in dorsal view (fig. 590), anteriorly narrowed to 0.49 times its maximum width or less, pars cephalica strongly elevated in lateral view (fig. 591), anterolateral corners with strongly sclerotized, triangular extension, pars thoracica

with rounded posterolateral corners, without depressions or radiating rows of pits, posterolateral edge without pits, posterior margin not bulging below posterior rim, posterolateral surface without spikes; surface of elevated portion of pars cephalica granulate, sides granulate; fovea absent, lateral margin straight, rebordered, with blunt denticles not bearing setae (fig. 591); plumose setae near posterior margin of pars thoracica absent; marginal, nonmarginal pars cephalica, pars thoracica setae light, needlelike, scattered. Clypeus margin strongly rebordered, sinuous in front view, vertical in lateral view, high, ALE separated from edge of carapace by their radius or more, median projection present, formed by fused small, triangular chilum (fig. 592); setae light, needlelike. Eyes six, well developed, ALE largest, oval, PME squared, PLE oval; posterior eye row recurved from above, procurved from front; ALE separated by less or more than their radius, ALE-PLE separated by less than ALE radius, PME touching throughout most of their length, PLE-PME separated by less than PME radius. Sternum (fig. 600) wider than long, not fused to carapace, surface coarsely reticulate, microsculpture present everywhere but front, without transverse ridges or pits, median concavity and hair tufts absent, with radial furrows between coxae I–II, II–III, III–IV, furrows with rows of small pits, radial furrow opposite coxae III absent, sickle-shaped structures absent, anterior margin with continuous transverse groove, posterior margin not extending posteriorly of coxae IV but with posterior hump, anterior corners excavated, lateral margins with infracoxal grooves bearing anterior, posterior openings, distance between coxae approximately equal, extensions of precoxal triangles absent, lateral margins with bridges to coxae; setae sparse, dark, needlelike, densest laterally, originating from surface, posterior and lateral margins with conspicuous, tuberculate setal bases. Chelicerae slightly divergent, anterior face with slight swelling (fig. 593); teeth scanned only in male of *B. perdido*, usually with one large tooth on promargin, one smaller tooth on retromargin, but male of *B. perdido* with promarginal tooth enlarged into distinct lobe bearing numerous tiny projections on retrolateral surface (fig. 594); fangs without toothlike projections, directed medially, shape normal, without prominent basal process, tip unmodified; setae dark, needlelike, densest medially; paturon inner margin with scattered setae, distal region, posterior surface unmodified, promargin with row of flattened setae, inner margin unmodified, laminate groove absent. Labium (fig. 595) triangular, not fused to sternum, anterior margin not indented at middle, same as sternum in sclerotization; with six or more setae on anterior margin, subdistal portion with unmodified setae. Endites same as sternum in sclerotization, anterior portion modified in males with distally excavated, ventrally with small, sharply pointed, triangular apical projection, dorsally with larger, much more heavily sclerotized, triangular projection, dorsal projection directed ventrally, medially (fig. 595), posterior portion unmodified; serrula absent in males (scanned only in male of *B. perdido*, fig. 596), apparently present as single row of teeth in females (not scanned, uncertain); labrum with rounded projection. Female palp without claw or spines; patella without prolateral row of ridges, tarsus elongate. **Abdomen:** Ovoid, without long posterior extension, rounded posteriorly, interscutal membrane without rows of small sclerotized platelets. Booklung covers large, ovoid, without setae, anterolateral edge unmodified; posterior spiracles connected by groove, groove continued beyond spiracles almost to lateral edge of postepigastric scutum. Pedicel tube medium, ribbed, scutopedicel region unmodified, scutum extending far dorsal of pedicel, plumose hairs, matted setae on anterior ventral abdomen in pedicel area, cuticular outgrowths near pedicel all absent. Dorsal scutum strongly sclerotized, in males covering full length of abdomen, no soft tissue visible from above, not fused to epigastric scutum around midline, in females smaller, occupying more than half of abdomen width, fused to epigastric scutum; middle surface smooth, sides smooth, anterior half without projecting denticles. Epigastric scutum strongly sclerotized, surrounding pedicel, not protruding, small lateral sclerites absent, without lateral joints in females. Postepigastric scutum strongly sclerotized, in males

covering nearly full length of abdomen, fused to epigastric scutum (in females much shorter, not fused to epigastric scutum); anterior margin unmodified, with short posteriorly directed lateral apodemes. Spinneret scutum present, incomplete ring, with fringe of long setae; supraanal scutum absent. Abdominal setae dark, needlelike, epigastric area setae not basally thickened; dense patch of setae anterior to spinnerets absent, interscutal membrane with setae. Colulus present, tiny, with pair of setae. Anterior lateral spinnerets bisegmented, basal segment without oblique membranous strip, posterior medians unisegmented, posterior laterals bisegmented (fig. 601); spigots scanned only in male of *B. perdido*, anterior laterals with single major ampullate gland spigot and four piriform gland spigots (fig. 602); posterior medians with four spigots (three with convex bases, presumably minor ampullate gland spigots, one with concave base, presumably aciniform gland spigot, fig. 603); posterior laterals with five spigots (four with convex bases, one with concave base, fig. 604). **Legs:** Femur IV not thickened, same size as femora I–III, patella plus tibia I shorter than carapace, tibia I unmodified, tibia IV specialized hairs on ventral apex, ventral scopula absent, metatarsi I, II mesoapical comb absent, metatarsi III, IV ventral scopula absent. Leg spines present on anterior femora, tibiae, metatarsi; femoral spines strong, tibial and metatarsal spines long, spines absent on posterior legs. Tarsi without inferior claw. Superior claws (scanned only in male of *B. perdido*) with single row of five or six teeth set on inner margin, most distal tooth greatly elongated on leg IV (figs. 606–613). Trichobothrial base with numerous parallel ridges (fig. 614). Tarsal organs with three receptors on legs I, II (figs. 615, 616), two on legs III, IV, palps (figs. 617, 618, 619). **Genitalia:** Male epigastric region with sperm pore small, narrow, slitlike, situated between anterior and posterior spiracles, rebordered (fig. 605); furrow without Ω-shaped insertions, without specialized setae. Male palp of normal size, not strongly sclerotized, right and left palps symmetrical, proximal segments pale orange, cymbium, bulb yellow; embolus dark, without prolateral excavation; trochanter of normal size, unmodified; femur of normal size, two or more times as long as trochanter, without posteriorly rounded lateral dilation, attaching to patella basally; patella shorter than femur, not enlarged, without prolateral row of ridges, setae unmodified; tibia with three trichobothria (fig. 599); cymbium (figs. 597, 598) ovoid in dorsal view, completely fused with bulb, no seam visible, extending beyond distal tip of bulb, plumose setae, stout setae, distal patch of setae all absent; bulb shorter than cymbium, slender, elongated. Distal elements deeply bifid, with embolus situated retrolateral to conductor, conductor sometimes also bifid (fig. 639). Female genitalia externally with short, wide atrium (fig. 622), internally with pair of slight to pronounced protrusions situated near anterior spiracles (presumably serving as muscle attachments), sclerotized anterior genitalic process, often accompanied by transverse basal sclerite visible through cuticle of atrium (fig. 622).

DISTRIBUTION: Known only from Napo province, Ecuador.

KEY TO SPECIES

1. Males 2
– Females (unknown in *B. cayambe*) 6
2. Conductor bifid (as in figs. 637, 639) . . . 3
– Conductor entire 5
3. Conductor long, only distal half bifid (figs. 670, 671) . . . . . *cayambe*
– Conductor shorter, bifid nearly to base . . . 4
4. Retrolateral prong of conductor relatively long, extending almost to embolus (fig. 649) . . . . . *niarchos*
– Retrolateral prong of conductor relatively short (fig. 638) . . . . . *bifida*
5. Embolus relatively narrow (fig. 627). . . . *perdido*
– Embolus relatively wide (fig. 660) . . . *wagra*
6. Tip of anterior genitalic process greatly expanded (fig. 652) . . . . . *niarchos*
– Tip of anterior genitalic process much smaller 7
7. Tip of anterior genitalic process relatively wide (fig. 641). . . . . *bifida*
– Tip of anterior genitalic process narrower (figs. 630, 663) 8
8. Stem of anterior genitalic process relatively short, wide (fig. 630) . . . . . *perdido*
– Stem of anterior genitalic process relatively long, narrow (fig. 663). . . . . *wagra*

Bidysderina perdido, new species
Figures 590–630

TYPE: Male holotype taken by canopy fogging at an elevation of 2085 m on the Río Perdido trail in the Estación Biológica Yanayacu, 0°36.496′S, 77°52.947′W, Napo, Ecuador (Nov. 26, 2009; Niarchos Exped.), deposited in QCAZ (PBI_OON 30627).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the long, distally darkened embolus and the long, distally narrowed conductor (figs. 626–628), females resemble those of *B. wagra* in having a relatively small atrium, but the stem of the anterior genitalic process is shorter and wider (fig. 630).

MALE (PBI_OON 30627, figs. 590–620, 623–628): Total length 1.72. ALE separated by less than their radius. Leg spination: femora: I p0-0-2, r0-1-0; II p0-0-1; tibiae: I v4-4-1p; II v4-4-0; metatarsi: I v2-1p-2; II v2-0-2. Embolus long, sharply bent at 2/3 its length, conductor long, distal portion extremely narrow, threadlike.

FEMALE (PBI_OON 30615, figs. 621, 622, 629, 630): Total length 2.40. Dorsal scutum covering 1/2 to 3/4 of abdomen length. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-2, r0-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-1p-2; II v3-0-1. Genital atrium short, wide, anterior margin straight except at middle, where procurved, posterior margin procurved.

OTHER MATERIAL EXAMINED: **Ecuador:** *Napo:* Macucoloma trail, Estación Biológica Yanayacu, 0°36.196′S, 77°53.407′W, Nov. 25–30, 2009, beating foliage, elev. 2100 m (M. Ramírez et al., Niarchos Exped., MACN PBI 30604, 30612), 3♂, 1♀; Río Perdido trail, Estación Biológica Yanayacu, 0°36.496′S, 77°52.947′W, Nov. 25–26, 2009, hand collecting, elev. 2085 m (M. Ramírez et al., Niarchos Exped., MACN PBI 30608, 30840), 2♂ (including E. Gaublomme DNA sequencing voucher), same, beating foliage (M. Ramírez et al., Niarchos Exped., MACN PBI 30614), 1♂, Nov. 26, 2009, elev. 2085 m (Niarchos Exped., AMNH PBI 49527, 49528), 3♂ (including P. Michalik TEM voucher); Sierra Azul, 15 km W Cosanga, 0°40′55″S, 77°56′09″W, Nov. 5, 1999, montane evergreen forest litter, elev. 2350 m (R. Anderson, AMNH PBI_OON 824), 1♀; Stream trail, Estación Biológica Yanayacu, 0.60022°S, 77.89039°W, Nov. 25–30, 2009, leaf litter, elev. 2175 m (M. Ramírez et al., Niarchos Exped., MACN PBI 30615), 1♀.

DISTRIBUTION: Ecuador (Napo).

Bidysderina bifida, new species
Figures 631–641

TYPE: Male holotype taken from leaf litter at an elevation of 2140 m on the trail to the San Jorge de Yanayacu Wildlife Reserve, 0.58813°S, 77.88428°W, Napo, Ecuador (Nov. 25–30, 2009; M. Ramírez et al., Niarchos Exped.), deposited in QCAZ (PBI_OON 30611).

ETYMOLOGY: The specific name refers to the bifid palpal conductor.

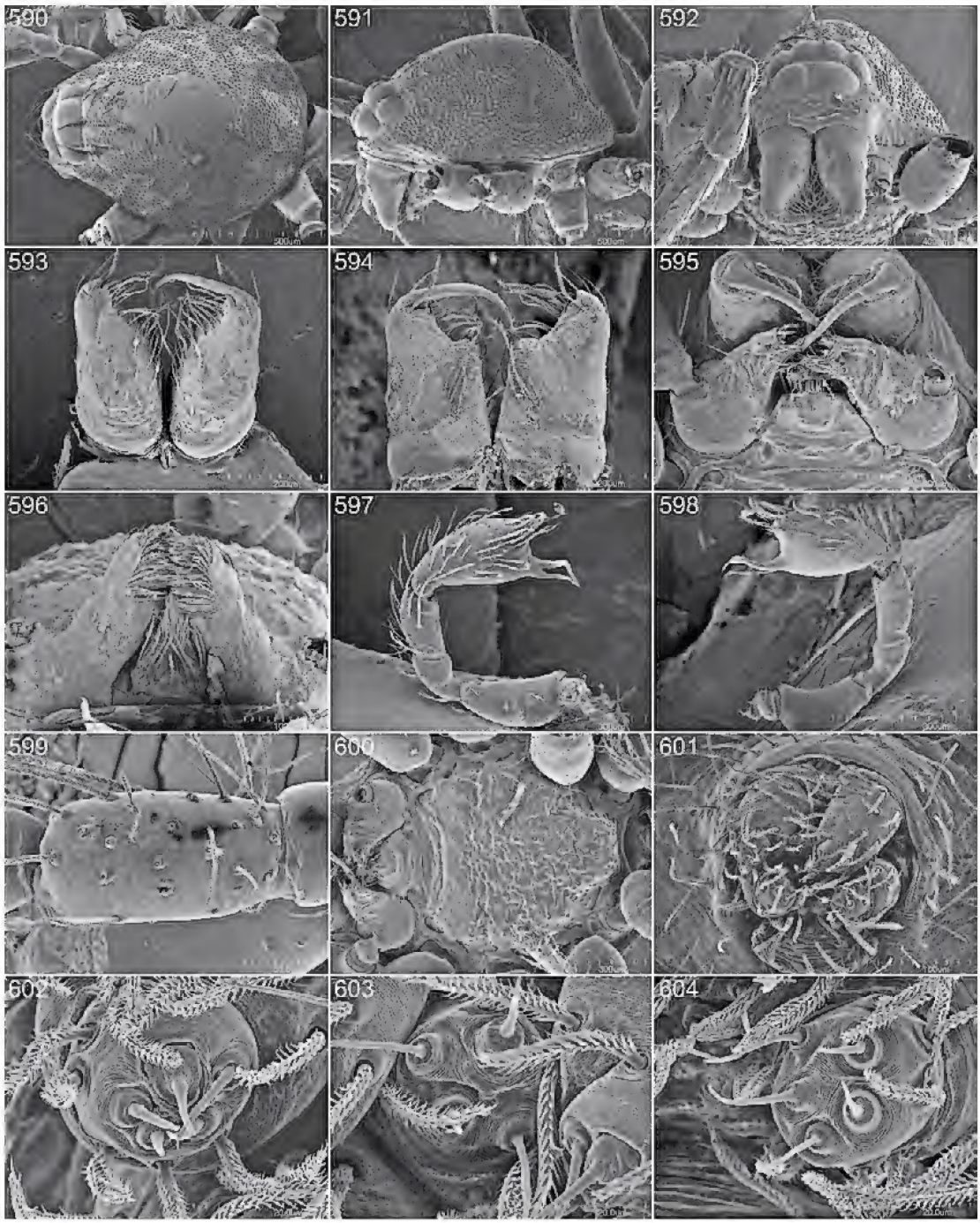
DIAGNOSIS: Males can easily be recognized by the greatly elongated embolus and bifid conductor (figs. 637, 639), females by the short, wide tip of the anterior genitalic process (fig. 641).

MALE (PBI_OON 30611, figs. 631, 634–639): Total length 1.80. ALE separated by less than their radius. Leg spination: femora: I p0-0-2, r0-1-0; II p0-0-1; tibiae I, II v4-4-1p; metatarsi: I v2-1p-2; II v2-0-2. Embolus very long, sinuous, conductor bifid, with proximal prong situated almost directly ventrally of distal prong.

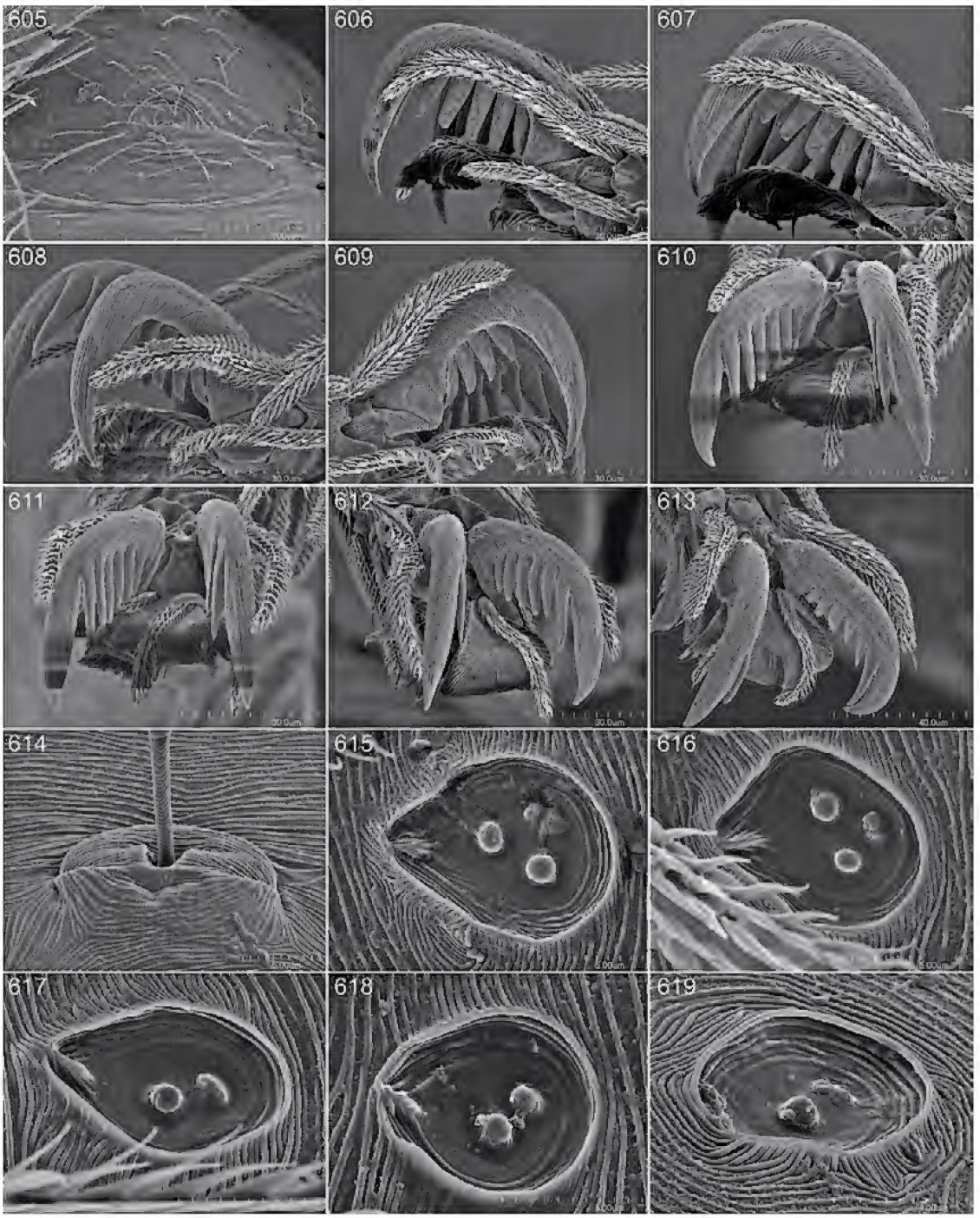
FEMALE (PBI_OON 49529, figs. 632, 633, 640, 641): Total length 2.51. Dorsal scutum covering 1/2 to 3/4 of abdomen length. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-2, r0-1-0; tibiae I, II v4-4-2; metatarsi: I v2-1p-2; II v3-0-2. Genital atrium short, wide, anterior margin sinuous, closely approximating posterior margin of epigastric scutum, posterior margin procurved.

OTHER MATERIAL EXAMINED: **Ecuador:** *Napo:* Río Perdido trail, Estación Biológica Yanayacu, 0°36.496′S, 77°52.947′W, Nov. 26, 2009, from epiphytes, elev. 2085 m (Niarchos Exped., AMNH PBI_OON 49531), 1♂; trail to San Jorge de Yanayacu Wildlife Reserve, 0.58813°S, 77.88428°W, Nov. 30, 2009, elev. 2140 m (Niarchos Exped., AMNH PBI_OON 49529), 2♂, 1♀.

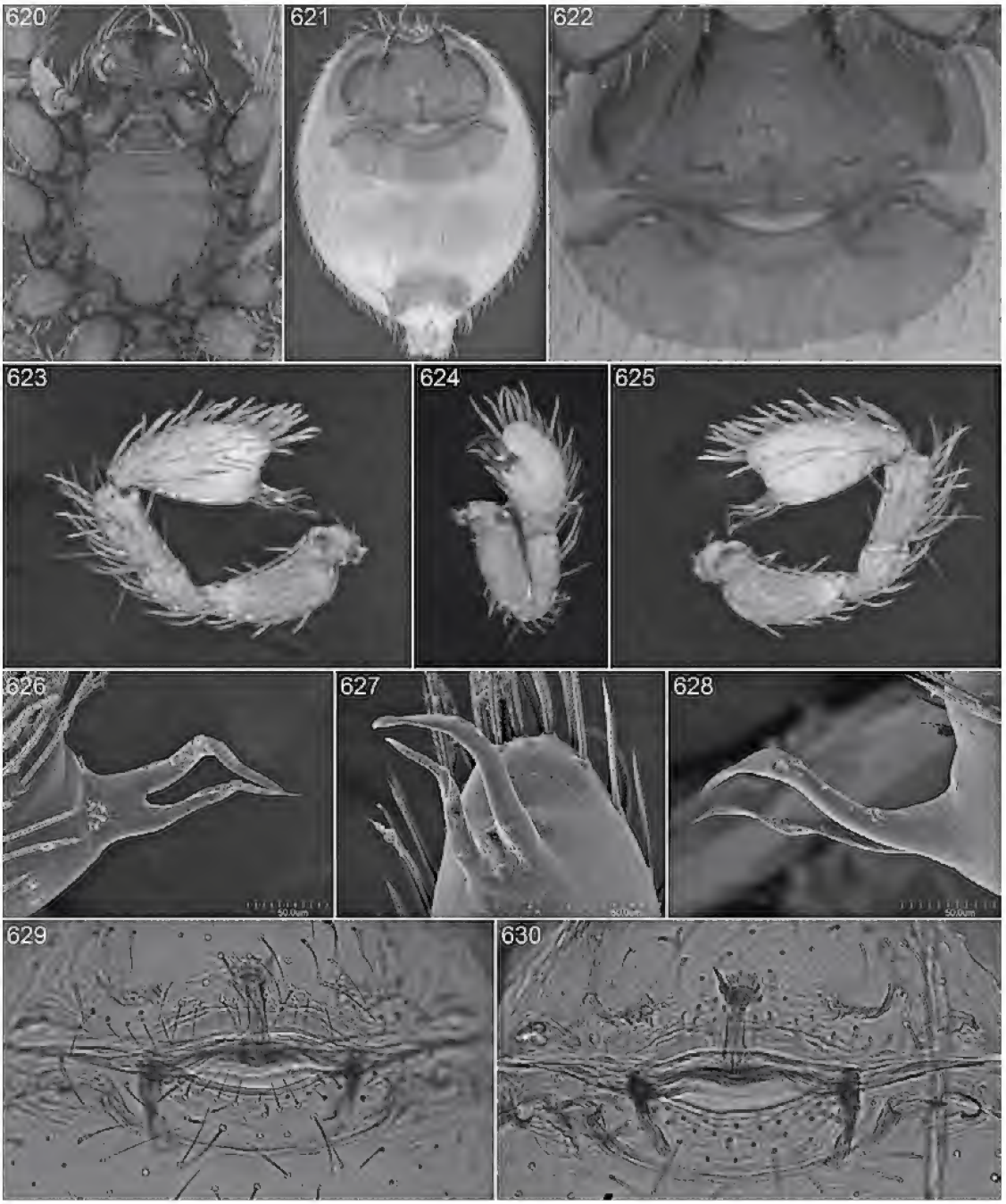
DISTRIBUTION: Ecuador (Napo).



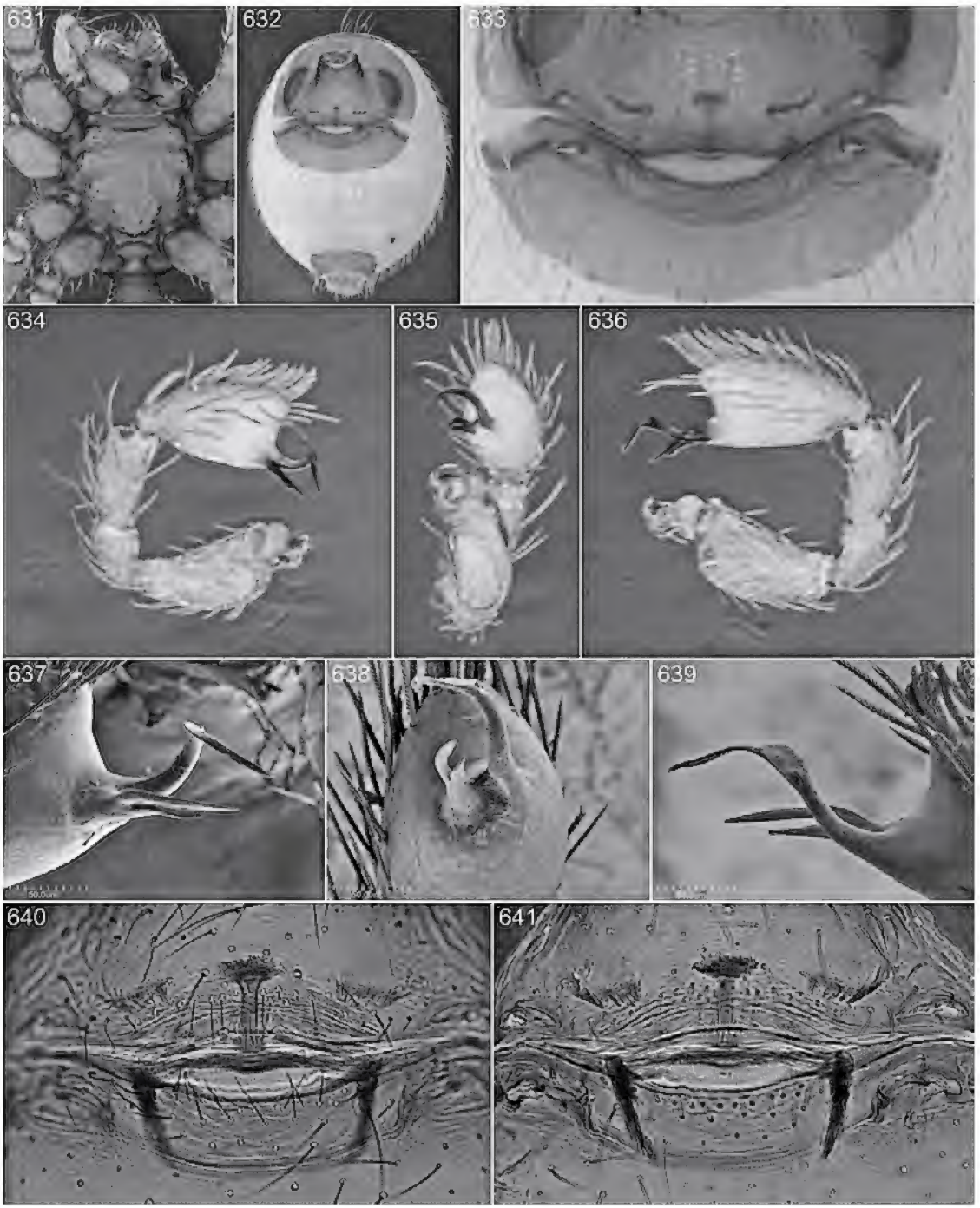
Figs. 590–604. *Bidysderina perdido,* new species, male. **590.** Carapace, dorsal view. **591.** Same, lateral view. **592.** Same, anterior view. **593.** Chelicerae, anterior view. **594.** Same, posterior view. **595.** Labium and endites, ventral view. **596.** Labrum and endites, dorsal view. **597.** Left palp, prolateral view. **598.** Same, retrolateral view. **599.** Palpal tibia, dorsal view. **600.** Sternum, ventral view. **601.** Spinnerets, distal view. **602.** Anterior lateral spinneret, same. **603.** Posterior median spinneret, same. **604.** Posterior lateral spinneret, same.



Figs. 605–619. *Bidysderina perdido,* new species, male. **605.** Epigastric region, ventral view. **606.** Claws of leg I, lateral view. **607.** Same, leg II. **608.** Same, leg III. **609.** Same, leg IV. **610.** Claws of leg I, distal view. **611.** Same, leg II. **612.** Same, leg III. **613.** Same, leg IV. **614.** Trichobothrial base from metatarsus I, dorsal view. **615.** Tarsal organ from leg I, dorsal view. **616.** Same, leg II. **617.** Same, leg III. **618.** Same, leg IV. **619.** Same, palp.



Figs. 620–630. *Bidysderina perdido*, new species, male (620, 623–628) and female (621, 622, 629, 630). **620.** Sternum and mouthparts, ventral view. **621.** Abdomen, ventral view. **622, 629.** Genitalia, ventral view. **623.** Left palp, prolateral view. **624.** Same, ventral view. **625.** Same, retrolateral view. **626.** Left embolus, prolateral view. **627.** Same, ventral view. **628.** Same, retrolateral view. **630.** Genitalia, dorsal view.



Figs. 631–641. *Bidysderina bifida*, new species, male (631, 634–639) and female (632, 633, 640, 641). **631.** Sternum and mouthparts, ventral view. **632.** Abdomen, ventral view. **633, 640.** Genitalia, ventral view. **634.** Left palp, prolateral view. **635.** Same, ventral view. **636.** Same, retrolateral view. **637.** Left embolus, prolateral view. **638.** Same, ventral view. **639.** Same, retrolateral view. **641.** Genitalia, dorsal view.

Bidysderina niarchos, new species
Figures 642–652

TYPE: Male holotype taken in a pitfall trap at an elevation of 2130 m on the Stream trail in the Estación Biológica Yanayacu, 0°35.955′S, 77°53.341′W, Napo, Ecuador (Nov. 24–Dec. 2, 2009 (N. Dupérré et al., Niarchos Exped.), deposited in QCAZ (PBI_OON 49532);

ETYMOLOGY: The specific name is a noun in apposition taken from the expedition during which the type was collected.

DIAGNOSIS: Males resemble those of *B. bifida* in having a bifid conductor; the only male available has the conductor broken on both palps, but the size, shape, and angle of the more retrolaterally situated prong of the conductor are different (compare figs. 649 and 638); females can easily be recognized by the massive anterior expansion on the anterior genitalic process (fig. 652).

MALE (PBI_OON 49532, figs. 642, 645–650): Total length 1.73. ALE separated by less than their radius. Leg spination (leg II missing): femur I p0-0-2, r0-1-0; tibia I v4-4-1p; metatarsus I v2-1p-2. Embolus abruptly narrowed at more than half its length, where bent, conductor apparently bifid, distal branch broken on only available specimen.

FEMALE (PBI_OON 825, figs. 643, 644, 651, 652): Total length 3.07. ALE separated by less than their radius. Dorsal scutum covering 1/2 to 3/4 of abdomen length. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-2, r0-1-0; tibiae I, II v4-4-2; metatarsi I, II v2-1p-2. Anterior genitalic process massively expanded anteriorly.

OTHER MATERIAL EXAMINED: **Ecuador:** *Napo:* Stream trail, Estación Biológica Yanayacu, 0°35.955′S, 77°53.341′W, Nov. 24, 2009, elev. 2130 m (Niarchos Exped., AMNH PBI_OON 825), 1♀.

DISTRIBUTION: Ecuador (Napo).

Bidysderina wagra, new species
Figures 653–663

TYPES: Male holotype and female allotype taken from humid forest with karstic rocks at an elevation of 750 m at the Sacha Wagra Lodge, 10 km from Archidona, 0°57′18″S, 77°41′51″W, Napo, Ecuador (Nov. 29, 2009; M. Ramírez et al., Niarchos Exped.), deposited in QCAZ (PBI_OON 30554).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the short embolus and widened conductor (fig. 660), females by the long stem and small tip of the anterior genitalic process (fig. 663).

MALE (PBI_OON 30622, figs. 653, 656–661): Total length 1.62. ALE separated by their radius to diameter. Leg spination: femur I p0-0-2, r1-1-0; tibiae: I v4-4-1p; II v4-4-0; metatarsi: I v2-1p-2; II v3-0-2. Embolus basally wide, sharply bent at about half its length, conductor similarly bent, widest at bend.

FEMALE (PBI_OON 30554, figs. 654, 655, 662, 663): Total length 2.31. Dorsal scutum covering 1/2 to 3/4 of abdomen length. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-2, r0-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-1p-2; II v3-0-2. Stem of anterior genitalic process relatively long, narrow.

OTHER MATERIAL EXAMINED: **Ecuador:** *Napo:* Estación Biológica Jatun Sacha, 1°03′57.5″S, 77°37′00.2″W, Dec. 2, 2009, elev. 410 m (Niarchos Exped., AMNH PBI_OON 49533), 1♂; Stream trail, Estación Biológica Yanayacu, 0°35.955′S, 77°53.341′W, Nov. 24–25, 2009, pitfalls, leaf litter and root mat, elev. 2130 m (N. Dupérré et al., Niarchos Exped., AMNH PBI_OON 30622), 2♂.

DISTRIBUTION: Ecuador (Napo).

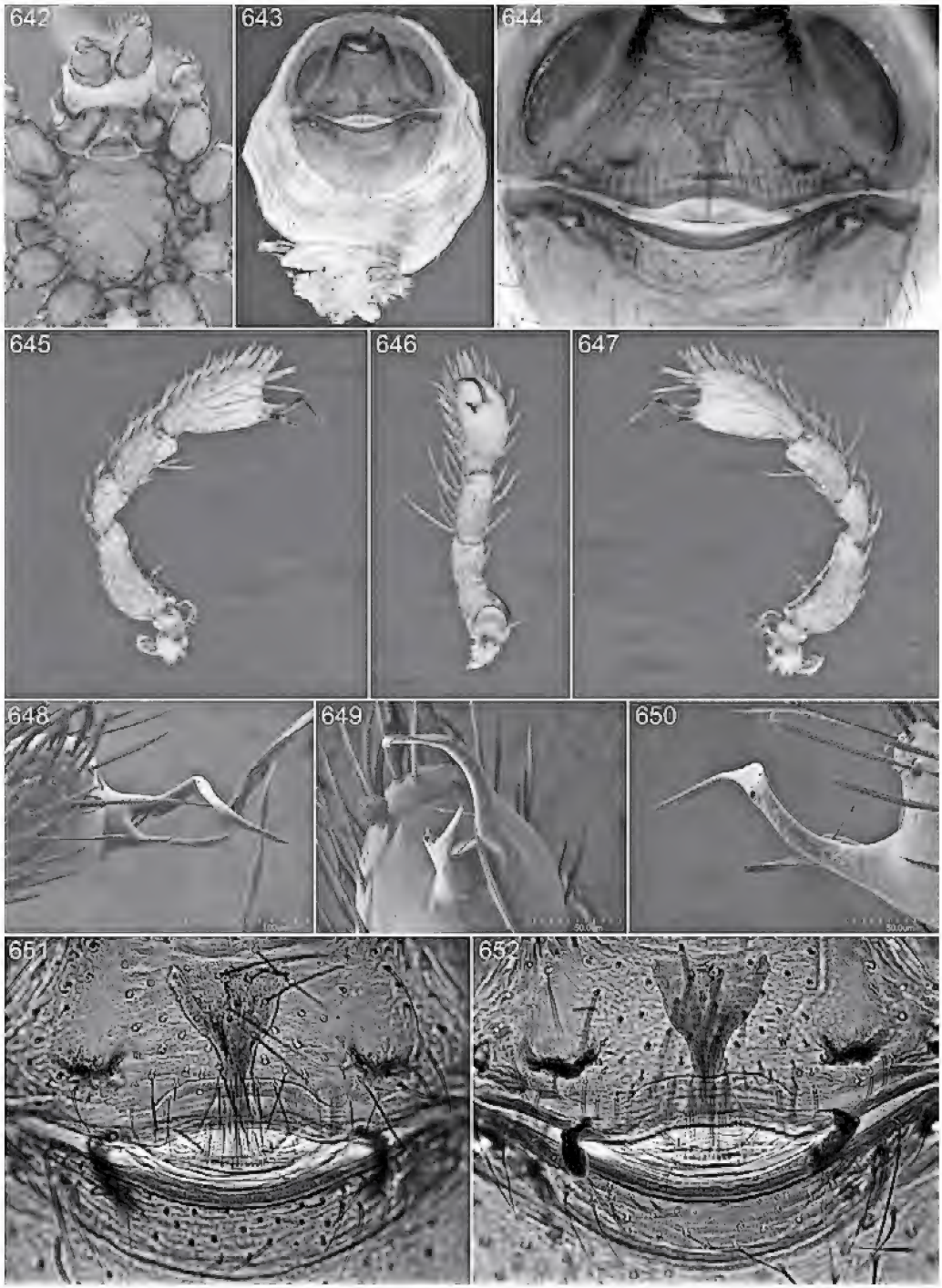
Bidysderina cayambe, new species
Figures 664–672

TYPE: Male holotype taken at an elevation of 3850 m on the road from Papallacta to Oyacachi, in the Reserva Ecología Cayambe-Coca, 0°16′13″S, 78°05′36″W, Napo, Ecuador (Dec. 1, 2009; Niarchos Exped.), deposited in QCAZ (PBI_OON 49534).

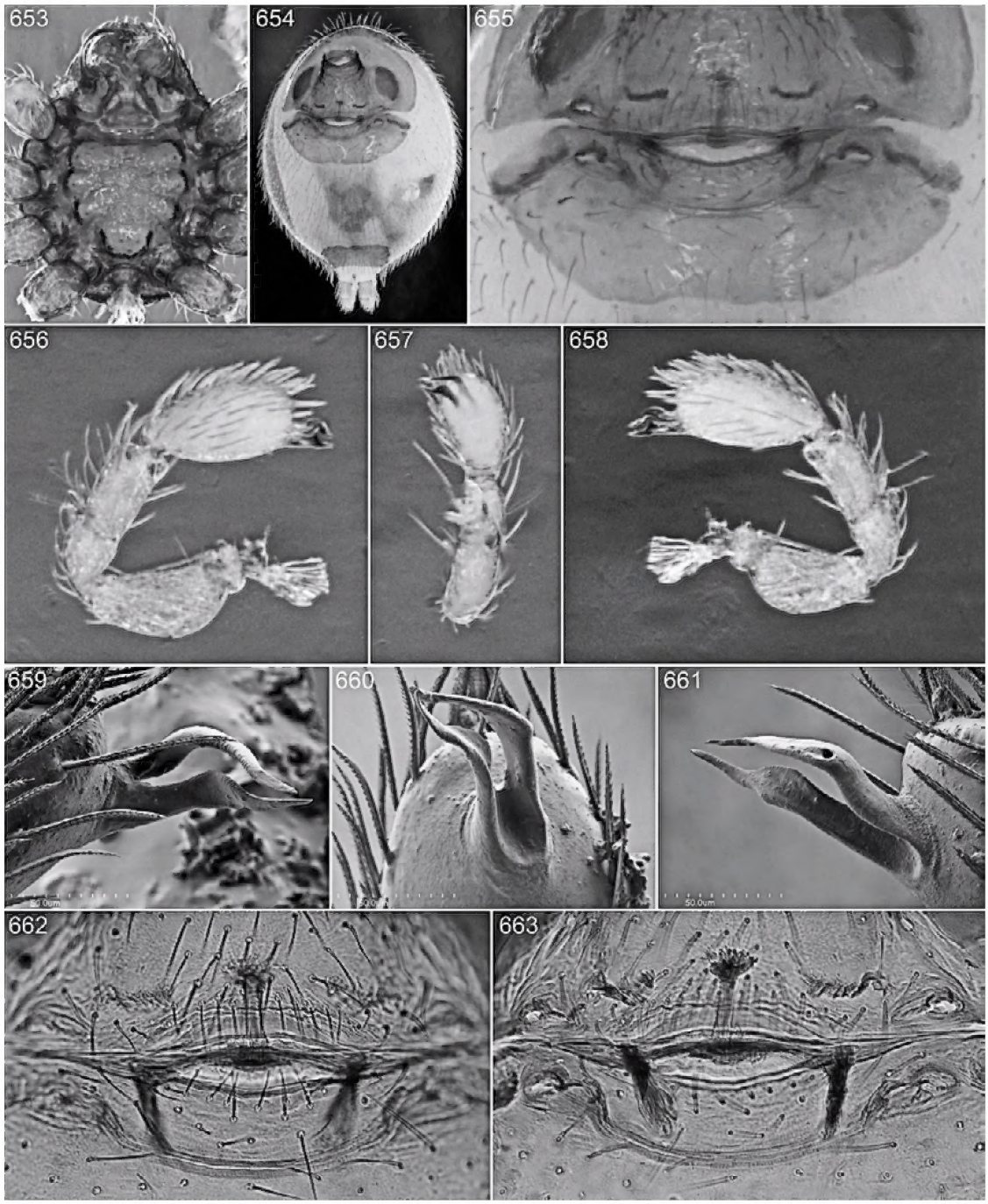
ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can easily be recognized by the long, sinuous embolus and the long conductor, the distal half of which is bifid (figs. 667–672).

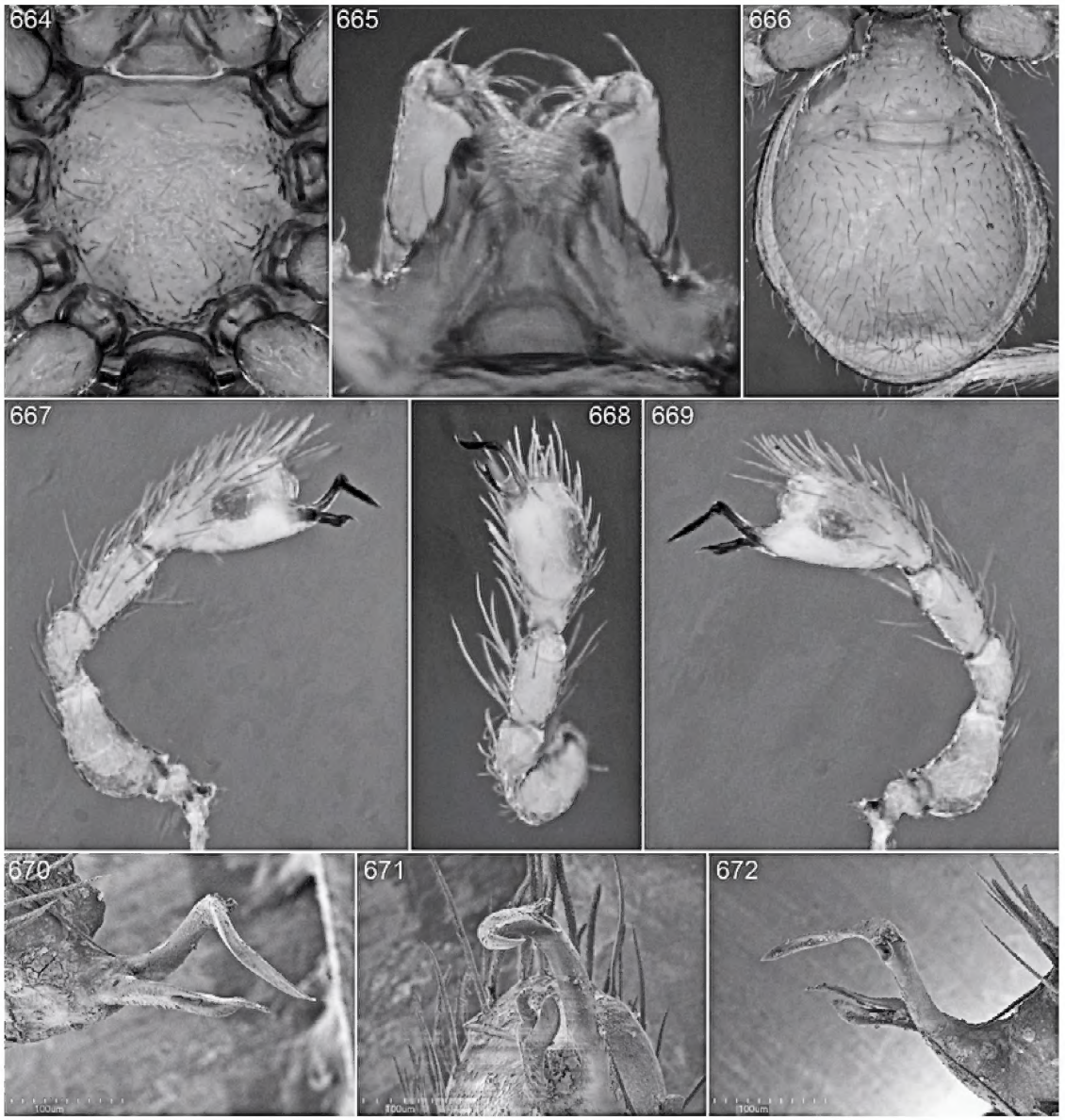
MALE (PBI_OON 49534, figs. 664–672): Total length 2.07. ALE separated by less than their radius. Leg spination: femora: I p0-0-2, r0-1-0; II p0-0-1; tibiae: I v4-4-2; II v4-4-0; metatarsi: I v2-1p-2; II v3-0-2. Embolus very



Figs. 642–652. *Bidysderina niarchos*, new species, male (642, 645–650) and female (643, 644, 651, 652). **642.** Sternum and mouthparts, ventral view. **643.** Abdomen, ventral view. **644, 651.** Genitalia, ventral view. **645.** Left palp, prolateral view. **646.** Same, ventral view. **647.** Same, retrolateral view. **648.** Left embolus, prolateral view. **649.** Same, ventral view. **650.** Same, retrolateral view. **652.** Genitalia, dorsal view.



Figs. 653–663. *Bidysderina wagra*, new species, male (653, 656–661) and female (654, 655, 662, 663). **653.** Sternum and mouthparts, ventral view. **654.** Abdomen, ventral view. **655, 662.** Genitalia, ventral view. **656.** Left palp, prolateral view. **657.** Same, ventral view. **658.** Same, retrolateral view. **659.** Left embolus, prolateral view. **660.** Same, ventral view. **661.** Same, retrolateral view. **663.** Genitalia, dorsal view.



Figs. 664–672. *Bidysderina cayambe*, new species, male. **664.** Sternum, ventral view. **665.** Mouthparts, ventral view. **666.** Abdomen, ventral view. **667.** Left palp, prolateral view. **668.** Same, ventral view. **669.** Same, retrolateral view. **670.** Left embolus, prolateral view. **671.** Same, ventral view. **672.** Same, retrolateral view.

long, distally sinuous, conductor very long, distal half bifid.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: One male taken with the holotype (AMNH PBI_OON 49535).

DISTRIBUTION: Ecuador (Napo).

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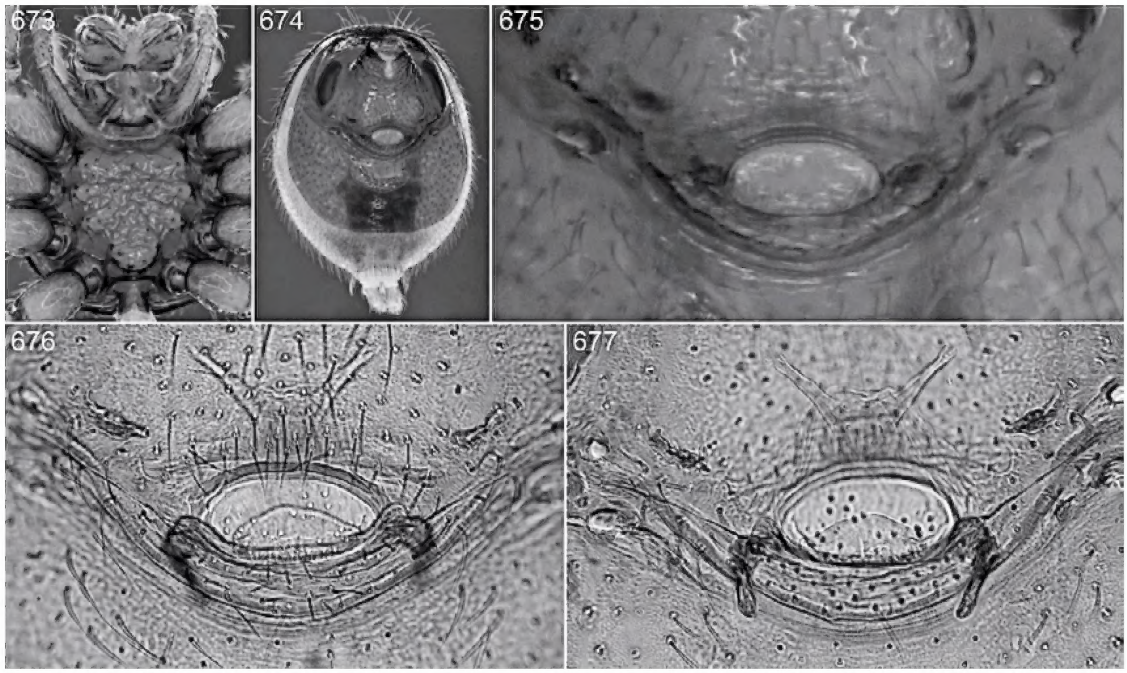

Figs. 673–677. *Prodysderina otun*, new species, female. **673.** Sternum and mouthparts, ventral view. **674.** Abdomen, ventral view. **675, 676.** Genitalia, ventral view. **677.** Same, dorsal view.

that project is immensely appreciated. As always, we thank the many curators of collections that have supplied specimens: Janet Beccaloni (BMNH), Jonathan Coddington (USNM), Charles Dondale (CNC), Eduardo Florez (ICN), Gonzalo Giribet and Laura Leibensperger (MCZ), Charles Griswold and Darrell Ubick (CAS), Bernhard Huber (ZFMK), Clifford Keil and Mauricio Vega (QCAZ), Claudia Medina (IAVH), Martín Ramírez and Cristian Grismado (MACN), Christine Rollard (MNHN), Peter Schwendinger (MNHG, via Yvonne Kranz-Baltensperger), Petra Sierwald (FMNH), Diana Silva (MUSM), and Carlos Víquez (INBIO). We also thank Steve Thurston for composing the plates, and Antonio Brescovit and an anonymous reviewer for their helpful comments of a draft of the manuscript. A.B.B. thanks CNPq for a research grant (PQ #307463/2009-5) and for supporting a project on oonopid taxonomy (Universal #478667/2008-6).

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